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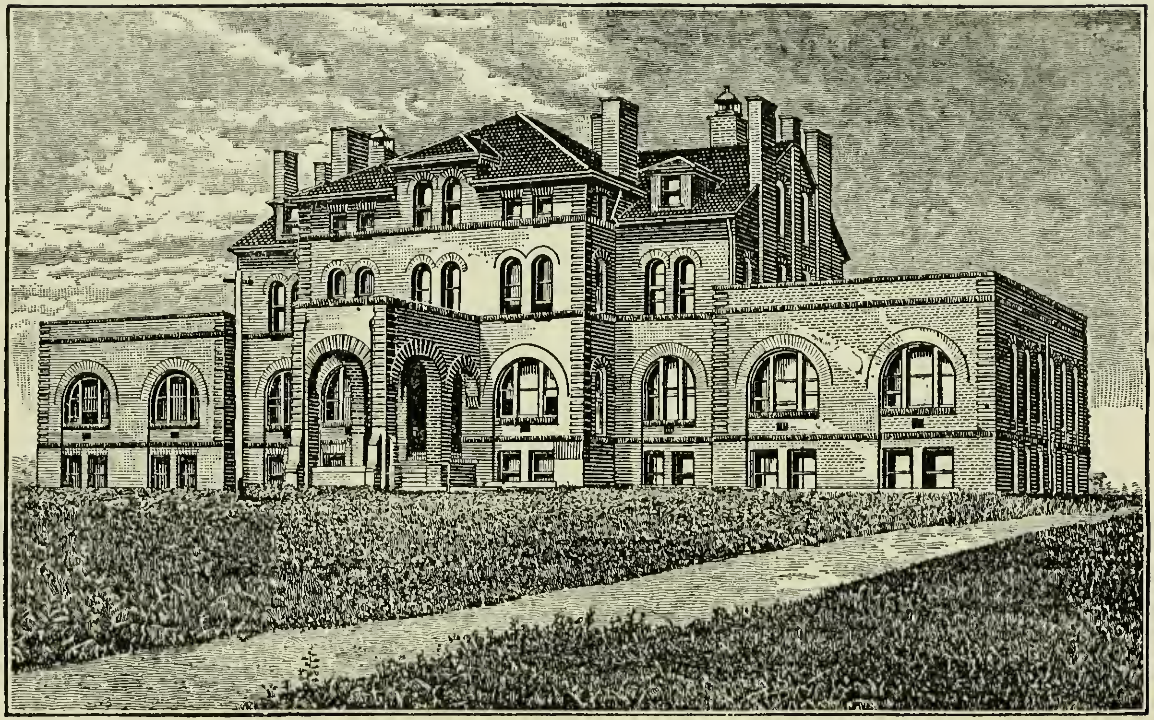

NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

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1998

FIRST ANNUAL CATALOGUE

OF THE

NORTH CAROLINA

COLLEGE OF AGRICULTURE AND MECHANIC ARTS

RALEIGH, N. C.

JUNE, 1890.

Fall Term Begins on September 4, 1890.

RALEIGH:
EDWARDS & BROUGHTON, PRINTERS AND BINDERS.
1890.

TRUSTEES OF THE COLLEGE.

1.	†W. S. Primrose, President Board.	Ex. Com.	Raleigh, N. C.
2.	*W. F. Green,	Ex. Com.	Franklinton, N. C.
3.	†S. B. Alexander,	Ex. Com.	Charlotte, N. C.
4.	†Henry E. Fries,	Ex. Com.	Salem, N. C.
5.	†N. B. Broughton,	Ex. Com.	Raleigh, N. C.
6.	*A. Leazar		Mooresville, N. C.
7.	*R. W. Wharton		Washington, N. C.
8.	*W. R. Williams		Falkland, N. C.
9.	*C. D. Smith		Franklin, N. C.
10.	*Burwell Blanton		Shelby, N. C.
11.	*W. R. Capehart		Avoca, N. C.
12.	*J. F. Payne		Alma, N. C.
13.	*J. S. Murrow		Centre, N. C.
14.	*W. E. Stevens		Clinton, N. C.
15.	†Elias Carr		Old Sparta, N. C.

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*
Elias Carr,
A. Leazar.

Note.—The names marked * are members of the Board of Agriculture, and are appointed by the Legislature. Names marked † are appointed by the Governor and confirmed by the Senate.

FACULTY.

ALEXANDER Q. HOLLADAY,
President.

JOS. R. CHAMBERLAIN, B. S.,
Professor of Agriculture.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry.

D. H. HILL, Jr., A. M.,
Professor of English and Book-Keeping.

J. H. KINEALY, D. E.,
Professor of Mathematics and Practical Mechanics.

W. E. WEATHERLY,
Assistant Instructor in Mechanics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

OFFICERS.

B. S. SKINNER,
Superintendent of Farm and Garden.

J. N. HUBBARD,
Steward.

Mrs. SUE C. CARROLL,
Matron.

OFFICERS OF

THE NORTH CAROLINA EXPERIMENT STATION

AND

STATE WEATHER SERVICE.

H. B. Battle, Ph. D-------Director and State Chemist.
F. E. Emery, B. S----------Agriculturist.
W. F. Massey ----- -------Horticulturist.
Jas. B. P. Massey--- -------Assistant Horticulturist.
B. W. Kilgore, B. S------ -Assistant Chemist.
F. B. Carpenter, B. S-----Assistant Chemist.
J. R. Harris ----- ------ --Assistant Chemist.
Gerald McCarthy, B. S---Botanist.
C. F. von Hermann, U. S. Signal Corps, Meteorologist.
H. L. Harris, B. S---- ----Secretary.

STATION COUNCIL.

Alexander Q. Holladay, *Chairman.*
H. B. Battle, Ph. D.
W. S. Primrose.
Elias Carr.
R. W. Wharton.

STUDENTS.

FRESHMAN CLASS.*

Name.	*County.*
Abt, Walter Alexander	Wake.
Allen, Robert Wilson	Anson.
Ashcraft, Baxter Clegg	Union.
Asbury, Samuel Erson	Burke.
Austin, Edgar Russell	Wake.
Bagwell Sidney Ivon	Wake.
Black, William Graham	Pender
Bond, Lewis	Bertie.
Bonitz, Henry E	New Hanover.
Bradwell, Derr Chipley	Iredell.
Broughton, Lorenzo Joseph	Union.
Brown, Henry Allen	Craven.
Bryant, Henry Edward	Mecklenburg.
Canady, William Thomas	New Hanover.
Colwell, Albert Wesley	Sampson.
Dawson, Walter D	Lenoir.
Eaves, Robert Spencer	Iredell.
Floyd, Frank Fuller	Granville
Foy, Clarence Bender	Jones.
Francks, Charles Duffy	Onslow.
Gay, Jasper Stancell	Northampton.
Gibbon, Edward	Mecklenburg.
Goodwin, James Camillus	Chatham.
Gray, George Pender	Edgecombe.
Green, Oscar David	Wake.
Henley, William Penn†	Randolph.
Henley, DeWitt Clinton	Chatham.
Hinsdale, Samuel Johnston	Wake.
Holladay, Charles Bolling	Lincoln.
Jones, William Albert	Edgecombe.
Knight, Joseph Lawrence	Edgecombe.
Lambe, Voliner T	Wake.
LaCoste, Stephen Anthony	Sumter Co., South Carolina.
Lytch, William McNeill	Richmond.
Marshall, Joseph King	Wake.

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* Includes all students the first year of the existence of the College.

† Dropped for misconduct.

Name.	*County.*
Mathews, Walter Jerome	Buncombe.
McKoy, James William	Buncombe.
McIlwean, Charles Wesley	Craven.
Meacham, Frank Theophilus	Wake.
Parker, Edward Larkine	Sampson.
Perkins, Thomas Alston	Beaufort.
Ratliffe, Thomas Anderson, Jr	Rockingham.
Rea, John Laney, Jr	Mecklenburg.
Robinson, Charles Edward	Lincoln.
Rudy, William J	Wake.
Sawyer, Frank McMurray	Duplin.
Sellars, Carl D	Alamance.
Seymore, Charles Edgar	Franklin.
Smith, John Wayland	Wake
Smith, Arthur Green	Johnston.
Stronach, William	Wake.
Tatum, Leonard Agnes	Bladen.
Taylor, George Lucas	Chatham.
Temple, Walter Rand	Wake.
Thompson, Robert Love	Wake.
Thorne, Buxton Williams	Halifax.
Turner, William Harrison	Montgomery.
Upchurch, Edward Bradley	Wake.
Utley, Charles H	Wake.
Waldo, Nathaniel Roan	Wake
Whitfield, James Richard	Lenoir.
White, Jefferson Edwin	Alexander.
Wilfong, George Summey	Catawba.
Williams, Charles Burgess	Camden.
Williams, John Buxton	Warren.
Williams, James Mac	Cumberland.
Williamson, Bailey Finley	Wake.
Woolwine, Terry Vernon	Randolph.
Worth, Hiram Baxter	Randolph.
Yancey, Tryon Noel	Wake.
Yarborough, Lewis Thompson	Caswell.
Young, Samuel Marvin	Wake.

A SHORT HISTORY OF THE COLLEGE.

ITS ORIGIN.

The Watauga Club, of Raleigh, in January, 1885, after having given the subject considerable thought, memorialized the Legislature as follows, viz.:

"1st. To establish an industrial school in North Carolina, a training place in the wealth-producing arts and sciences.

"2d. To be located at Raleigh in connection with the State Agricultural Department.

"3d. To erect a suitable building and provide proper equipment.

"4th. That the instruction be in wood work, mining, metallurgy and practical agriculture.

"5th. That necessary shops and laboratories be erected adjoining the buildings of the Agricultural Department, and that an experimental farm in the vicinity of Raleigh be equipped.

"6th. That an industrial school is of prime importance and greatly in demand."

The committee on behalf of the Club also furnished such information as they had been able to secure regarding the scope and utility of such an institution.

Several bills were introduced in that Legislature, the one drawn by Hon. A. Leazar becoming a law on March 7th, 1885, by a vote of 51 to 11 in the House and 23 to 9 in the Senate.

The act provides, among other features, as follows:

"1st. That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and when an adequate donation should be made by any city or town, there the school should be located, giving the place the preference which offered the greatest inducements.

"2d. That the school should be under joint control of the Board of Agriculture and directors from such town or city.

"3d. That the instruction should be in wood work, mining, metallurgy, practical agriculture, and such other branches of industrial education as may be deemed expedient.

"4th. That the Board of Agriculture should be authorized to apply annually $5,000 of the surplus funds of their department to the establishment and maintenance of said school."

After successive advertisements and many meetings, in which the subject was fully discussed, the Board of Agriculture accepted an offer made by the city of Raleigh, and appropriated the sum of $5,000 for that year, 1886, pursuant to the terms of the act.

Before this result was attained, the earnest advocates of the measure met in mass meetings on several occasions, at which committees were appointed to prepare full information and statistics. Prominent citizens of the State from various sections manifested a lively interest in the scheme, and matters were assuming a definite shape for the commencement of the school, as shown by the payment of the amount subscribed by the city of Raleigh, the purchase of a site, &c., when certain events gave a different and broader scope to the work designed to be accomplished.

Two large meetings of the farmers of North Carolina were held in Raleigh, respectively on the 18th and 26th of January, 1887. The first of these meetings, among other things, resolved that the farmers ought to have an agricultural college; and further, that the interest on the land-scrip fund should be given for a part of its support. The second meeting, with representatives from forty counties, reiterated the resolution referred to as passed by the convention of January 18th, and also considered favorably a proposal of the city of Raleigh to combine the industrial school with the desired agricultural college, offering the funds already in hand, with whatever the Legislature might provide for such an institution.

After an exciting discussion, a bill for such Agricultural and Mechanical College became a law in the Legislature of 1887 by a vote of 68 to 19 in the House of Representatives and 29 to 13 in the Senate.

Thus the scheme for the North Carolina College of Agriculture and Mechanic Arts was inaugurated, and the State took a most important and progressive step in behalf of agricultural and mechanical development.

OBJECT AND AIM OF THE COLLEGE.

The mission of the North Carolina College of Agriculture and Mechanic Arts can be gathered from a perusal of the sections or synopsis of the State law and the Acts of Congress quoted in this pamphlet. But it will not be amiss to give here a brief statement of what it is designed to accomplish.

Its general purpose is to so teach the principles and application of the sciences, illustrating sound theory by daily practice, as to make out of its students useful and successful men, instead of mere intelligent drones.

"One of the special objects of the college is to foster a higher appreciation of the value and dignity of intelligent labor and the worth and respectability of laboring men. A boy who sees nothing in manual labor but mere brute force despises both the labor and the laborer. With the acquisition of skill in himself, comes the ability and willingness to recognize skill in his fellows. When once he appreciates skill in handicraft, he regards the workman with sympathy and respect."

The Jews in scriptural times taught each boy a trade in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time in this and other countries have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such institutions as we are now commencing is calculated to work out such economic results.

In an agricultural and mechanical college the student is taught to know that work is honorable, and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. It is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the practical education which will be given by the Agricultural and Mechanical College, and the established colleges and the University of the State. Taking our college as one department of learning and the above named institutions as another, their spheres are widely different, and they should be of practical benefit each to the other and both to the commonwealth.

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction: in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle raising and the production of dairy products; in its trucking interests, fruit and small fruits; in its ores and minerals; its lumber and hard woods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, *skill* and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State as far as it can reach them in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an agricultural and mechanical college, in which the very best methods and results can be studied and worked out practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended, not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock raisers, dairymen—men who will be interested in their work, and who will make their work profitable.

The State also has need of good mechanics, carpenters, architects, draughtsmen, contractors and manufacturers, and the College will help to make them.

In conclusion, while the College will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure, of the members of the Faculty of the College to take an active part in farmers' institutes, which are accomplishing so much of good in many States of the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands. They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, &c. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, &c., &c.

COURSES OF INSTRUCTION.

THE GENERAL COURSE IN AGRICULTURE.

All students will pursue the same studies throughout the Freshman year, and the Agricultural Course will not assume its separate and distinctive form until the Sophomore year.

In the Freshman year, therefore, students, looking to the specific course in Agriculture, will, in addition to their elementary work in this line, acquire dexterity in the use of wood working tools and in mechanical drawing.

In the Sophomore year a partial separation will take place; agricultural students will give up the shop and drawing, and will proceed with the studies leading to the degree of Bachelor of Science in Agriculture.

This course includes the departments of General Agriculture, Horticulture, Arboriculture and Botany, Chemistry, History, English and Book-keeping.

MANUAL LABOR IN THE AGRICULTURAL COURSE.

While all students in this course are required to perform such manual labor in the hours for practice as in the opinion of the professors is necessary and instructive, they are not required to waste time in matters of mere drudgery, of which the majority of them have already learned enough before coming to us. We endeavor to keep in view the fact that our course is not intended as a training school for farm laborers, but for the development of brain power in Agriculture and Horticulture, and the training of the administrative ability of students in directing the great army of uneducated muscle which constitutes our farm hands. While taught that no labor is beneath the dignity of a thorough farmer when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American agriculture, and thus send them out as *leaders in improvements*, instead of mere followers in ruts of other men's making.

The illustrative facilities and means for practical demonstration of the College have been greatly increased by the uniting with it the Hatch Agricultural Experiment Station, supported and maintained by the United States Government. The investigations constantly in progress at the Station not only serve the purpose of placing the student in an atmosphere of original investigation, but also serve the purpose of developing his own powers of observation and quickening his perceptions. The students will be furnished in the Senior year special facilities for pursuing original work in preparing graduating Theses—subjects for which, may be selected from original work in either Agriculture, Horticulture, Botany or Agricultural Chemistry.

THE GENERAL COURSE IN MECHANICS.

As every American is a probable land-owner at some period of his life, it is thought best that, during the Freshman year, students looking to a degree in the Mechanical Course shall take the same studies as the students of Agriculture, thereby acquiring such knowledge of the general principles of agriculture, of the composition of soils, of plant life and botany as must be of use to every intelligent citizen.

But in the Sophomore year the courses divide. Those who aspire to a diploma in Mechanics give up all work pertaining especially to agriculture, and begin the special work of the Mechanical Course leading up to the degree of Bachelor of Engineering.

This course includes the department of Mechanics, the department of Mathematics, the department of Chemistry, the department of History and the department of English and Book-keeping.

The graduating Thesis shall have for its subject some part of the work in Practical Mechanics, or Mathematics, to be approved by the Professor of Mathematics and Mechanics.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. CHAMBERLAIN.
ASSIST. PROF. EMERY.

The aim of this department is to make its pupils practical farmers as well as thorough students. In order to accomplish this end, practice and theory must go hand in hand. Science is the foundation on which improved agriculture is based.

In the class-room we must study the Science of Chemistry, Physics, Botany, Zoology, Entomology, Physiology, etc. In the field we must study the laws of Nature, learn to observe and become familiar with the little details incident to agricultural pursuits, and apply our knowledge in agricultural practice.

All the students in this course will be required to work in the farm work-shops, in the barns and in the fields under the direct supervision of the Professor of Agriculture.

The field and shop-work supplements the lectures and recitations in such a way that the application and value of the principles taught may be thoroughly understood and remembered by the students, as much time will be given to practical work as circumstances will permit.

FRESHMAN YEAR.

All students entering college will, during the Freshman year, give two hours a week to the study of the fundamental and essential principles of agriculture.

Reference book: Gulley's First Lessons in Agriculture.

FRESHMAN CLASS AT WORK TRUCK GARDENING.

SOPHOMORE YEAR.

During the Sophomore year students in the course in Agriculture will devote six hours a week to the study of Comparative Anatomy, Physiology and Hygiene of farm animals. Special study will be given the digestive tract, and the food required by different kinds of animals; the general laws of nutrition; the chemical composition of feeding-stuffs, with reference both to the feeding and manurial values, the feeding of farm animals; the effect of dry or succulent and concentrated or bulky foods; feeding rations for fattening, working and dairy animals; the general laws of heredity, and principles of stock-breeding.

JUNIOR YEAR.

Lectures and practical work eight hours a week in farm surveying and leveling, plotting results, and making profiles for the establishment of farm drainage, irrigation, road and bridge making, farm buildings, fences, implements and permanent improvements. The study of domestic animals, history and description of various breeds of horses, cattle, sheep and swine, with their merits and demerits. General notes on care of stock and selection for specific purposes, whether for work, dairy or fattening, with special reference to their breeding and development. Dairy practice, the construction of dairy buildings and management of dairy machinery and equipment, the latest and most approved methods of conducting a dairy business; effect of food, exposure and treatment of cows on the quantity and quality of milk, utilization of the products of the dairy, packing and shipping of dairy products and study of the peculiarities of markets.

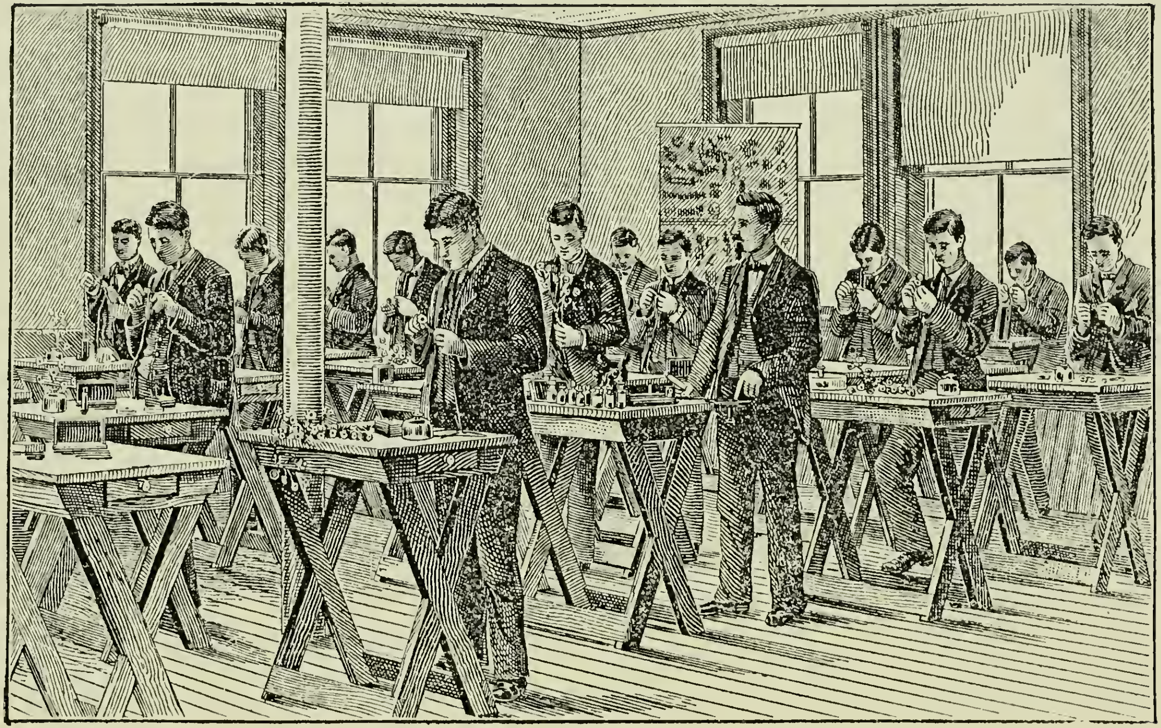
SENIOR YEAR.

Lectures and practical work eight hours a week in the study of farm manures, their composition and value, best methods of application, chemical fertilizer, with their adaptation to certain soils and crops. Soil exhaustion. Soil renovation. Planting, cultivating and harvesting of farm crops. Various questions relating to farm accounts, buying and selling; general farm economy. Thesis.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROF. MASSEY.

Recognizing the fact that a thorough knowledge of plant structure and vegetable physiology lies at the root of all accurate knowledge of Horticulture and Arboriculture, special effort will be made to give thorough and accurate training in the study of the Anatomy and Physiology of vegetable life. While Botany will be mainly studied from a biological standpoint, systematic Botany will not be neglected, but will be pursued by studying from the plants themselves the characters and affinities upon which the Natural System is founded, rather than a hurried finding out of the scientific names attached to each. The method used is a modification and amplification of the schedule method of Prof. Henslow. In addition to preparing schedules of all the parts and characters of the plants as the study proceeds, the student will be required to make drawings of every part of plant and flower from the plant itself. He will be taught to make his own classification in a general way, and will finally be given a flora to verify and correct his work and to find the name of the plant.



FRESHMAN CLASS IN BOTANICAL LABRATORY.

In this way he acquires habits of close observation and original investigation, which will be of great value to him in other branches of study.

The same method of drawing everything observed will be practiced in the advanced studies of the course, when the minute anatomy of plants is taken up with the use of the Compound Microscope. As it is highly probable that many students will not remain more than two years with us, the effort will be to get into the first two years of the course of study as much as possible those branches strictly essential to the practical Trucker and Fruit Grower. A brief part of the course will be devoted to the study of insects, so far, at least, as to enable the student to gain a general acquaintance with those insects which are injurious or beneficial to Agriculture and Horticulture. In Horticultural study, theory and practice will go hand-in-hand, in vegetable culture, small-fruit culture, nursery practice, orchard culture and ornamental gardening. While no time will be wasted in work that is simply drudgery, every effort will be made to make the student skillful in horticultural operations in which dexterity of hand is necessary, such as budding, grafting, pruning, training and propagating under glass.

Those who take the entire course will receive thorough instruction in all the branches needed by a Professional Horticulturist, such as Greenhouse propagation, Ferriculture, Forestry, Landscape Art; and the forcing of fruits, flowers and vegetables under glass.

The Nursery and Florist business in the State is constantly increasing in importance, and men skilled in greenhouse and nursery work and propagation are being sought after—North Carolina nurserymen are now obliged to send North for skilled propagators and greenhouse foremen. Our effort, then, will be to train students so that they will be qualified to manage successfully the most extensive horticultural operations, and to aid in developing the great horticultural capacities of the State. Our new greenhouse will be completed during the Summer, and in connection with the houses at the Experiment Station will offer special facilities to this class of students. Arrangements can be made for special short-course students in greenhouse and nursery practice.

COURSE OF STUDY.

Freshman Year.

Field and Laboratory study in general morphology and gross anatomy of plants. Practice and field lectures in vegetable culture. Two hours weekly.

SOPHOMORE YEAR.

Fall and Winter Terms.

Lectures on Vegetable Physiology and Anatomy, with occasional illustrations with a Compound Microscope. Pomology and Nursery management. Two hours a week.

Practice in propagation of plants by seeds, cuttings, budding, grafting, &c., &c. Four hours a week.

SPRING TERM.

Lectures on market gardening and small-fruit culture. Systematic Botany. Two hours a week.

Practice in pruning and grafting, collection and classification of flowering plants and forming herbaria. Four hours a week.

JUNIOR YEAR.

Fall and Winter Terms.

Lectures on Cryptogamic Botany and upon grasses. Four hours a week.

Practice in greenhouse propagation and collection of Composition and Grasses. Laboratory study of Minute Anatomy of plants, with use of Compound Microscope. Four hours.

SPRING TERM.

Lectures on Invertebrate Zoology to Insecta. Four hours. Collection and Laboratory study of Insects. Compound Microscope work continued in both animal and vegetable anatomy and histology. Four hours.

SENIOR YEAR.

Fall and Winter Terms.

Lectures on Exotic Horticulture, Floriculture and the forcing of fruits, flowers and vegetables under glass. Four hours. Laboratory study of Fungi.

SPRING TERM.

Lectures on Landscape Art and Forestry. History of cultivated plants and origin of Floral structures. General Botanical and Horticultural History. Four hours.

Laboratory study of Fungi continued with special reference to fungus diseases of plants. Thesis.

PURE AND AGRICULTURAL CHEMISTRY.

PROF. WITHERS.

This department occupies all the north-east wing of the first floor of the Agricultural Building, which consists of five rooms, as follows: General Laboratory, Lecture Room, Store Room, Private Laboratory, and Office.

The Chemical Laboratory is 37 by 19 feet, is well lighted, is supplied with fume closets, evaporating baths, drying chamber, blast lamp, and extra stone-covered tables, and has accommodations for fifty-six students, twenty-eight of whom may work simultaneously. The analytical tables are of yellow heart-pine with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus, and has three feet of working space. Each working space is provided with gas, water, a sink and shelves for reagents.

The Chemical Library contains a carefully selected list of standard text and reference books, and also the current numbers of the leading chemical journals.

The Chemical Museum will contain specimens illustrating the lectures in general and agricultural chemistry.

In this department the following courses are offered:

I. INTRODUCTORY CHEMISTRY.

Lectures and Recitations three times weekly, supplemented with Laboratory work.

REQUIRED OF FRESHMEN.

During the first portion of the year some of the typical elements and their more common compounds are studied, with some of the simpler principles underlying the science. The lectures are supplemented with full experiments in the class-room, and afterwards some of these experiments are performed in the laboratory by the student himself. During the second portion of the year Agricultural Chemistry is begun and some of its most important bearings on the processes of agriculture studied.

This course is aimed to give the student the chemical knowledge needed for beginning the courses of other departments and to prepare him for those which follow in this. For those students who are unable to pursue further their college course, it will be an aid in their private reading and study of agricultural literature.

II. GENERAL CHEMISTRY.

Lectures and Recitations three times weekly, with three hours Laboratory work weekly.

FOR SOPHOMORES.

The non-metals and metals are taken up in order, and after this a short course in organic chemistry is given. Laboratory work accompanies the lectures.

Reference books: Remsen's Inorganic and Organic Chemistry, Roscoe & Schorlemmer, Wurtz, Richter.

III. AGRICULTURAL CHEMISTRY.

Lectures and Recitations three times weekly.

FOR JUNIORS IN AGRICULTURE.

Attention is given to a consideration of—

The atmosphere as a plant feeder; the plant—its mineral and organic ingredients and their functions; the soil—its composition and origin, its physical and chemical properties, its agency as a storage reservoir and as a plant feeder; effect of drainage, tillage, barning and fallowing; amendments; fertilizers; barn manures; green manuring.

Foddering substances—their composition and valuation; ensilage.

Animal chemistry; stock feeding; chemistry of butter, cheese and milk, etc., etc.

Reference books: Storer's Agriculture, Johnson's How Crops Grow, and How Crops Feed, Mayer's Lehrbuch der Agrikulturchemie.

IV. QUALITATIVE ANALYSIS.

Six hours Laboratory Work weekly.

FOR JUNIORS.

The student is brought to see the natural division of the elements into general groups. He is familiarized with general and individual reactions and taught by these to identify the presence of elements in unknown compounds.

Reference books: Caldwell & Babcock, Douglas & Prescott, Fresenius.

V. QUANTITATIVE ANALYSIS.

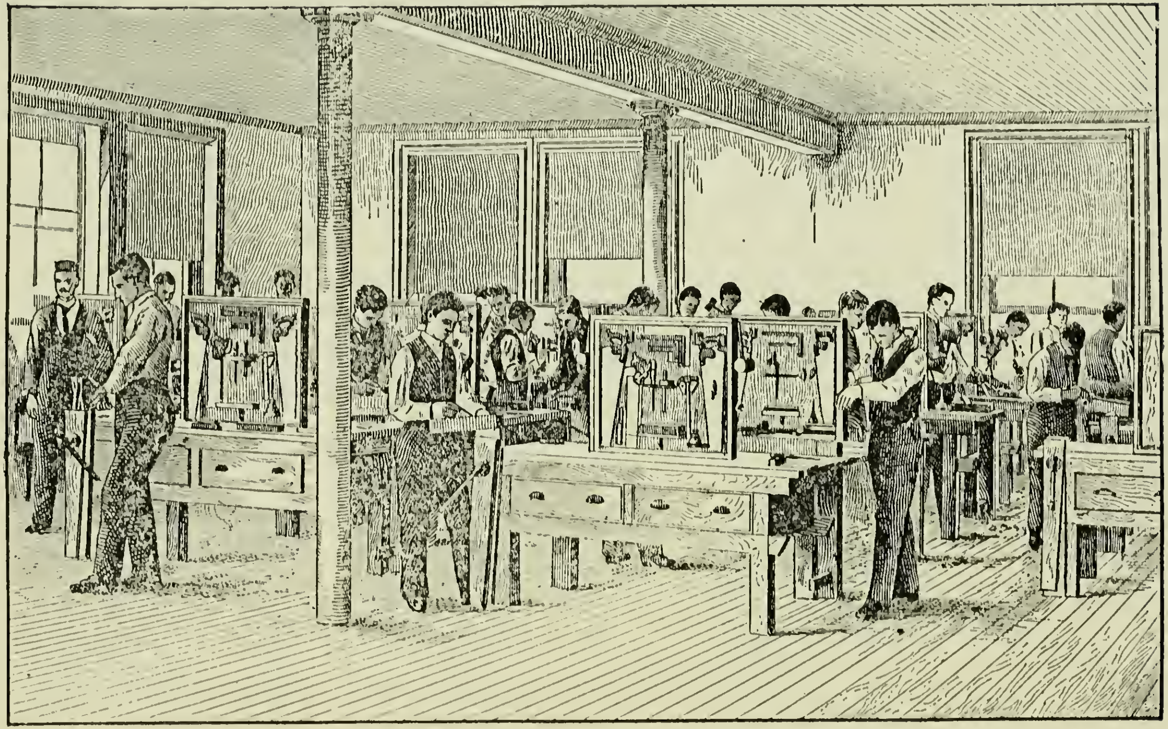
Laboratory Work, Laboratory open from 9 a. m. to 5 p. m.

FOR SENIORS.

After the introductory quantitative work, which requires about ninety to one hundred hours, agricultural analysis is begun, and the student is given practice in the analysis of marls, mucks, feeding stuffs, fertilizers, soils, waters, and such other work as the Agricultural Chemist is usually called upon to perform.

Reference books: Fresenius, Sutton's Volumetrie Analysis, Caldwell's Agricultural Chemical Analysis, Methods of the Association of Official Agricultural Chemists.

Students from other institutions, who have the necessary qualifications, and who look forward to careers as agricultural chemists, may be admitted to Courses III and V. Those who have had the necessary training in quantitative analysis may begin agricultural analysis at once.



FRESHMAN CLASS AT WORK IN CARPENTER SHOP.

DEPARTMENT OF PRACTICAL MECHANICS AND MATHEMATICS.

PROF. KINEALY.
ASSIST. PROF. WEATHERLY.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering. In the class-room work of this department it will be necessary to use text-books to a great extent, but they will always be supplemented by explanations and lectures.

The course, as laid out, is intended to give to those who complete it such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments, and in the management of machinery, as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose. No specialty, as yet, is made either of mechanical engineering, civil engineering or architecture; but those fundamental principles which underlie, and form the bases of all, are taught to the student.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood. His greater or less degree of skill will, of course, depend largely upon his natural ability.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Machinery and Mill-work.—This study has two hours per week devoted to it during the entire year. It includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys, in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

As far as possible, this subject will be made clear and plain by explanations in the shop building and by visits to neighboring manufacturing establishments.

Building and Building Materials.—Two hours per week for one-third of a year. This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts, and the correct methods of making and fixing each in its relations to the others. They are also taught to make estimates and bills of materials.

Physics.—Two hours per week for two-thirds of a year, following the subject of Building and Building Materials. The time is devoted principally to the study of heat and its effects upon materials. This subject is a prelude to the study of Steam and Steam Machinery, which comes during the next year.

JUNIOR YEAR.

Steam and Steam Machinery.—Two hours per week during the entire year. This is a study of engines and boilers, and steam-plants in general. A text-book will be used.

Graphic Statics.—Two hours per week for one-third of a year. The student learns to determine the stresses in framed structures, bridge and roof-trusses, by the graphic methods. This study is a prelude to the subject of Bridges and Roofs in the next year, and is taught entirely by lectures.

Surveying.—Two hours per week for two-thirds of a year. During the Winter the students will confine their attention to a theoretical study of the principles of surveying, and in the Spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land. They will in this way become thoroughly familiar with the theory and practical use of surveying instruments.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—Three hours per week during the entire year. This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—Two hours per week during the entire year. The students are here taught the analytical methods of determining the stress of the various members of a roof or bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures upon Roads, Sewerage, Water, &c.—Two hours per week during the entire year. These lectures are intended to cover such subjects of general engineering as require a knowledge only of those principles with which the student has already become familiar.

During this last year, 1889–'90, the practical work in the Department of Practical Mechanics and Mathematics has consisted simply of a course in carpentry and a course in drawing. Both of these courses have been taken by all of the students.

The carpentry shop is equipped with thirty carpenter-benches and all the necessary tools for each bench.

Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel-square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench.

These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him, a jack-plane, ¾-inch chisel, ½-inch chisel, ¼-inch chisel, a slip-stone and a two-foot rule. These tools are used only by the student to whom they are issued, and he is held responsible for them. He is required to keep them sharp and in good order, and upon leaving college to return them to either the professor or his assistant.

All the exercises in the shop are designed simply for the instruction of the students. Nothing is made for sale. It is the training of the student only, for which the exercises are designed.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on it all the necessary dimensions and notes.

This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

In the beginning of the course, the instructor is obliged to give a great deal of explanation to the class as to the meaning of the various conventional signs on the drawings, and, also, to show each student how to "lay out" his work from the drawing. As the students acquire facility in reading the working drawings and skill in "laying out" work, and in handling tools, the exercises are made more difficult.

When an exercise is given to the class, the instructor explains where and how, the joint or work illustrated by that particular exercise is used in practical construction.

All the students of one class are at work upon the same exercise at the same time. And those who, by reason of their natural aptness and ability, finish their exercise before the others, are given pieces of work to do for the college, or are given an extra exercise to keep them busy.

It must be remembered that all work done in the shop, whether as an exercise or in the construction of an article for the college, is done from drawings.

The Board of Trustees have already made arrangements for the erection and partial equipment of a large shop building. The building will be a two-story building, and will contain on the first floor, a Machine Shop, 30x40 feet; a Forge Shop, 30x40 feet; an Office and Class-room, 23x24 feet, and a Wash-room, 10x23 feet. On the second floor will be a Wood Shop, 30x40 feet; a Carpenter Shop, 30x 40 feet, and a Drawing-room, 23x35 feet.

This building will be finished and the Forge Shop will be equipped during the summer of 1890 in order to be prepared to continue the class in shop work. The Forge Shop will be fitted up with a number of forges. Each forge will be equipped with a water-tank, shovel and poker. For each forge there will be provided the following tools: an anvil, hammer, steel square and hardy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels, for general use in the shop.

The work in the Forge Shop will consist of a number of graded exercises by which the students will be taught to work in iron and steel. The students will begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools, and may learn to work fast. They will then be taught how to build and tend the fire, and to heat iron. When they can do this, they will then forge simple shapes out of hot iron. They will learn to "bend," to "draw," to make "scarfs," and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they will then be taught to work with steel and to temper it, and be given a short course in tool-making.

In 1891 it is proposed to equip a complete wood-working shop, with wood-turning lathes, a band-saw, mortising machine and other tools. In this shop the students of the Junior class will be given a complete course in wood turning and pattern making, and a limited course in moulding.

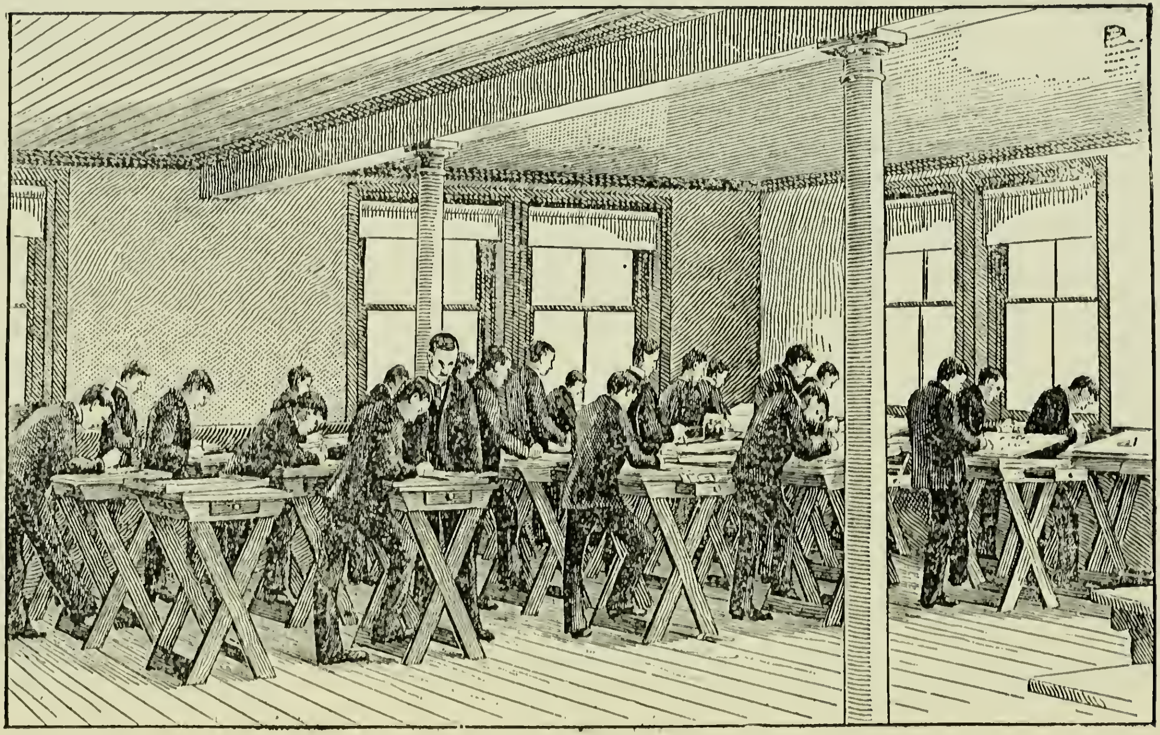
In 1892 the Machine Shop will be fully equipped with lathes for iron, shaper, planer, and other machines necessary for a complete course in machine-shop work.

After the Freshman year each student in the mechanical course will be expected to work 7½ hours per week in one of the shops.

DRAWING.

During the Freshman year all the students in the college take a course in drawing. The drawing of this year consists of a little free-hand sketching, a course in lettering, and the elements of mechanical drawing.

After the Freshman year each student taking the mechanical course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and



FRESHMAN CLASS AT MECHANICAL DRAWING.

details of work and machinery already built and set up. The students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked, lettered and finished, as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior class, he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shops are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making drawings of objects that already exist.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

MATHEMATICS.

The course in mathematics begins at the beginning of the Freshman year, and continues during the whole four years for the mechanical students. The agricultural students drop the study of mathematics at the end of the Sophomore year.

The course is substantially as follows:

Freshman Year.—Arithmetic completed and Algebra begun.

Sophomore Year.—Algebra completed and Geometry begun.

Junior Year.—Geometry completed and followed by a course in Analytical Geometry.

Senior Year.—Calculus.

Trigonometry will be taken with surveying during the Junior year.

ENGLISH DEPARTMENT.

PROF. HILL.

No matter what a young man's purposes for life may be, a systematic training in English is desirable. By this training he acquires such a knowledge of the capacities of his own language, such a familiarity with its forms and its laws, such a command over its resources as will enable him to think with force and express himself with accuracy and vigor. In addition, the critical study of our literature sets high standards of excellence before the student, and strengthens his mind by requiring a digestion of the best thought of the best brains.

The work of this department begins the first year and continues for four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

This class recites by sections, each section four times a week. The work for the year is mainly a study of the laws of expression. Gilmore's Art of Expression and Lockwood's English are used as text-books. Incidentally a study is made of words, prefixes, suffixes, synonyms, idioms, and the relationship of the Latin and the Saxon element. Written exercises are constantly required, but, in this year, the material for these is suggested or given and the student's attention is mainly directed to correctness of expression.

SOPHOMORE CLASS.

Four Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by the Elements of Rhetoric. In this course in Rhetoric, special attention will be given to the analysis of themes and their subsequent elaboration step by step. This work will be done in the lecture-room, and no pains will be spared in trying to develop the student's imaginative and constructive faculties. Parallel to this, selections from Irving, Prescott, and Poe, together with several of our best American poems, will be critically read and discussed.

JUNIOR CLASS.

Four Recitations a Week.

The first part of this year will be spent on Logic and Logical praxis. This will be followed by Higher Rhetoric, Rhetoric as it has to do with Invention, its processes and its dealings with the different kinds of discourse. Linguistic studies will also take up a portion of the time of this class. Extracts from Ruskin's Modern Painters, two of Bacon's essays, some of Gray's and of Dryden's poems will constitute the parallel reading.

SENIOR CLASS.

Two Recitations a Week.

Literature, English and American, will occupy the year. Historical periods will be studied first, and then the literature of those periods. A course of lectures on English Poetry and on the Novel will be given. Marlowe's Faustus, Otway's Venice Preserved, and three plays of Shakspere will be read and discussed in the lecture-room. The parallel reading for this class will be assigned individually, and courses mapped out that seem best suited to each student's taste.

Throughout this whole course, compositions, essays, and criticisms will be written regularly.

DEPARTMENT OF BOOK-KEEPING.

PROF. HILL.

Both Agricultural and Mechanical students take Book-keeping in the Freshman and Sophomore classes. In the Spring and Summer Terms of the Freshman year, Single-Entry is studied. The work in the text-book will be supplemented by numerous original examples and sets for practice. This class recites twice a week.

The Sophomore class will recite twice a week during the Spring and Summer Terms. The time of this class will be given entirely to Double-Entry, and to a practical application of the principles of Book-keeping to branches of business that are not strictly mercantile.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course, students will be given a familiar knowledge of the history of their own country and state, and an outline of general history, both ancient and modern. They will be taught, as far as possible, to note the progress of civilization, the development of constitutions, and tendency of political systems rather than to memorize isolated facts—in other words the chief effort will be directed towards teaching students how to read, and to think, rather than to recite.

Instruction will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided to outside readings on special subjects, for which the College library will afford ample conveniences.

LOCATION.

The College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence, on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from its corporate limits, the site is, in all respects, a suitable one. The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is exceptionally good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about three years, and the land is being brought up mainly by judicious vegetable manuring. More land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake county, and the brown-stone from Wadesboro, Anson county.

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, &c., are well arranged.

A carefully planned brick workshop, two stories high, is now in process of erection, and will be ready for use by September 1st, 1890. This building will contain a machine-shop, forge-shop, woodworking-shop, carpenter-shop, class-room, office and wash-room, and will be equipped for thorough work in every particular.

It is intended to erect, as rapidly as means will permit, barns, silos, stables and the like, which shall be models of their kind. Meanwhile, for all purposes of instruction, students will have the use of the large buildings for such purposes, already erected on the Experiment Station Farm, near by the Agricultural and Mechanical College.

In the basement of the main College building every convenience has been provided for housekeeping, and no facility is lacking in the boarding department. The cost of table-board alone, will under no circumstances exceed eight dollars per month, and it is in contemplation to arrange for a mess system under which students, assisted by a steward and well-equipped kitchen, storerooms and dining-hall, all provided by the College, may regulate their own expenses, and by co-operation, perhaps effect some further reduction of cost.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, with convenient bath-rooms on the second floor. Additional dormitory accommodation will be provided, as necessity may require.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examinations, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore, or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

DEGREES.

Two degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science in Agriculture (B. S. Agr.) Upon those who through four years, have done likewise in the Mechanical course, the degree of Bachelor of Engineering (B. E.) will be conferred.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

A majority of the students are consistent church members, and have united in a Young Men's Christian Association, which meets once each week. Its meetings are well attended, and exert a most beneficial influence.

LITERARY SOCIETIES.

There are two literary societies in the College, and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation and debate, and students will find in either, congenial associations.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations students will have free use of the books for general reading and for purposes of reference.

LABOR.

On the farm and about the College, certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it, will be paid seven cents per hour.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both, will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities, proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit, and hold their sons to strict account for them, since if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark—some of our students have so passed through their first session.

Students who persist in grave misconduct, will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants must be at least 14 years of age; must furnish evidence of good moral character and physical development; must be able to read and write ordinary English intelligently, and must be familiar with simple arithmetic, including the practical rules of the same, through fractions, and have a fair knowledge of geography and State history.

MODE OF ADMISSION.

On July 5th and August 23d, or such other day as may be decided on by the County Boards of Education, applicants (said applicants to be restricted to the provisions of section 8, chapter 410, Laws of 1887) for admission to the College will present themselves before the County Superintendents of Education, in connection with not less than two members of the County Board of Education, and submit to an examination by written questions, which will be prepared and furnished by the President of the College to the said Examiners, who are requested to make sure that candidates receive no help in their examinations.

The Board of Examination, or one of their number, will please forward all completed examinations to the President of the College *without delay*, in order that there may be sufficient time for their careful perusal, after which the Faculty of the College will issue certificates of appointment to such as show themselves qualified to enter the Freshman Class. All successful candidates will be notified of their appointments, and must present themselves at the College at such time as may be designated by the President.

The same educational qualifications will be required of all other applicants, and their examination conducted by the Faculty upon arrival.

Students after arriving in Raleigh, must report at the College at once.

GENERAL RULES.

Every pupil, on becoming a member of the College, thereby pledges his obedience to its rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected, at all times, to demean themselves in a quiet, gentlemanly manner, and no pupil will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever services are not held in the College building.

CLOTHING, ETC.

No uniform suit is required. Each scholar should bring a bag in which to send washing to the laundry, and must make out washing-lists on blanks, which will be furnished by the Matron, who will see that all articles delivered to her will be safely handled and returned. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm, or in the work-shop; in any event, a pair of overalls for such work.

Each occupant of a dormitory will be expected to keep his room, or section of a room, in good order, and ready for inspection at any time.

TUITION.

The cost of tuition will be $20.00 per scholastic year, except to county appointees, who are entitled to tuition and lodging, *free of cost.*

RATE OF BOARD.

Board shall be furnished at $8 per month, if a co-operative mess is not organized. All charges must be paid *in advance*

ESTIMATED COST TO STUDENTS.

I. COUNTY STUDENTS.

1.	Tuition free.	
2.	Board at $8 per month, per session 10 months	$80 00
3.	Washing at 75 cents per month (estimated)	7 50
4.	Books, stationery, fuel, lights and medical attendance for entire term	12 50
	Total	$100 00

II. FOR OTHER STUDENTS.

1.	Tuition per session	$ 20 00
2.	Board at $8 per month, 10 months	80 00
3.	Washing at 75 cents, term 10 months	7 50
4.	Books, stationery, fuel, lights and medical attendance for entire term	12 50
5.	For lodging in College building, room, furniture, bedding, etc	10 00
	Total	$130 00

NOTE.—County students who are accommodated with lodging in the College building will be furnished with room, or section of room, furniture and bedding, without cost. Pay students will be given similar accommodations at $10 per term when room admits. Should the lodging accommodations of the College be filled with county students, room, fuel and lights can be had in families in immediate neighborhood at $10 per month.

ACTS OF LEGISLATURE AND CONGRESS IN RELATION TO THE COLLEGE.

The act under which the College was established became a law on the 7th day of March, 1887, and reads as follows:

AN ACT SUPPLEMENTAL TO CHAPTER 308, LAWS OF 1885, ENTITLED "AN ACT TO ESTABLISH AND MAINTAIN AN INDUSTRIAL SCHOOL."

The General Assembly of North Carolina do enact:

SECTION 1. That the Industrial School provided for in chapter 308, Laws of 1885, shall be denominated "The North Carolina College of Agriculture and Mechanic Arts," and shall be located on the lands offered to be donated, in accordance with the provisions of said law, by R. Stanhope Pullen, of Raleigh, Wake county, lying west of and near the city of Raleigh.

SEC. 2. The leading object of this College shall be, without excluding other scientific and classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

SEC. 3. The management and control of the said College and the care and preservation of all its property shall be vested in a board of trustees to be composed of the Board of Agriculture of North Carolina, and five other persons who shall be appointed by the Governor, by and with the consent of the Senate, who shall have power to appoint its President, instructors, and as many other officers or servants as to them shall appear necessary and proper; and shall fix their salaries and prescribe their duties; they shall also prescribe rules for the management and preservation of good order and morals at the said College, as are usually made in such institutions, and are not inconsistent with the Constitution and laws of the State; have charge of the disbursements of its funds, and have general and entire supervision of the establishment and maintenance of the said College. And the President and instructors in the said College, by and with the consent of the said board of trustees, shall have the power of conferring such certificates of proficiency, or marks of merit, as are usually conferred by such colleges: *Provided*, that the board of trustees shall be composed half of each political party.

SEC. 4. The certificate of indebtedness of this State for one hundred and twenty-five thousand dollars, issued for the principal of the Land

Scrip Fund to the trustees of the University of North Carolina, and bearing interest at six per cent. per annum, shall be transferred, on the thirtieth day of June, eighteen hundred and eighty-eight, or as soon thereafter as it shall appear that the Agricultural and Mechanical College is ready to receive the interest on the Land Scrip Fund, and that the principal of the fund will not in any way be compromised by such a transfer to the said board of trustees for the benefit of the said North Carolina College of Agriculture and Mechanic Arts, and the interest thereon shall thereafter be paid to them by the Treasurer, semi-annually, on the first day of July and January in each year, for the purpose of aiding in the support of the said College in accordance with the provisions of the act of Congress, approved July 2d, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts."

SEC. 5. That the Directors of the North Carolina State Penitentiary shall be required to furnish all brick and stone requisite for the erection of the necessary buildings of the said College, and to furnish convict labor for preparation of the grounds and the foundations, the erection of the said buildings, and for such other purposes in connection with the establishment of the said College as they may be able, such material and labor to be free of charge to said College: *Provided*, that the work required of the Penitentiary shall not interfere with any contracts upon which the Penitentiary may be engaged, and that the work by the Penitentiary shall be limited to two years from date.

SEC 6. That the Board of Agriculture shall turn over to the Board of Trustees of said College, as provided in this act, to be applied to the establishment, maintenance and enlargement of the said College, all funds, land, material and other property which may have accumulated in their hands, for the establishment of an Industrial School, under chapter 308, Laws of 1885, and annually thereafter the whole residue of their funds, from licenses on fertilizers remaining over and not required to conduct the regular work of that department. The Agricultural Experiment and Fertilizer Control Station, already established under the management of the said Board of Agriculture, shall be connected with the said College, and the Board of Agriculture may turn over to the said trustees, in whole or part, for the purposes of the said College, any buildings, lands, laboratories, museums or other property which may be in their possession, as in their judgment may be thought proper. The said Board of Trustees are empowered to receive any donations of property, real or personal, which may be made to the said College of Agriculture and Mechanic Arts, and shall have the power to invest or expend the same for the benefit of said College. The said Board of Agriculture shall have power to accept, on behalf of this State, donations of property, real or personal, and any appropriations which may be made by the Congress of the United States to the several States and Territories for the benefit of Agricultural Experiment Stations, and they shall expend the whole amount so received for the benefit of the aforesaid Agricultural Experiment Station, and in accordance with the act or acts of Congress in relation thereto.

SEC. 7. The use of the three hundred acres of land, more or less, known as the Camp Mangum tract, belonging to the State of North Carolina, and situated one-half mile west of the State Fair Grounds, is hereby given to the said Board of Trustees for the benefit of said College of Agriculture and Mechanic Arts, or of the Experiment Station connected therewith.

SEC. 8. The Board of Trustees shall admit to the benefits of the said College, free of any charge of tuition, upon proper evidence of good moral character and of their inability or the inability of their parents or guardians to pay their tuition, a certain number of youths to be determined by them, not to be more than one hundred and twenty, and shall apportion the same to the different counties applying, according to their relative number of members in the House of Representatives of North Carolina. The said board are hereby empowered to make the necessary regulations for carrying this into effect and for the admission of other students.

SEC. 9. Every student in this College of Agriculture and Mechanic Arts shall be required to take a course of manual training or labor, together with the other courses of study and exercise, as the board shall direct.

SEC. 10. All laws and sections of laws in conflict with this act are hereby repealed.

SEC. 11. This act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this the 7th day of March, 1887.

THE LAND SCRIP ACT.

The Land Grant Act of the Congress of the United States, passed in 1862, to promote the establishment and provide for the maintenance of agricultural and mechanical colleges in the various States of the Union:

AN ACT DONATING PUBLIC LANDS TO THE SEVERAL STATES AND TERRITORIES WHICH MAY PROVIDE COLLEGES FOR THE BENEFIT OF AGRICULTURE, MECHANIC ARTS AND MILITARY TACTICS, KNOWN AS THE MORRILL ACT.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there be granted to the several States for the purposes herein mentioned an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, that no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which the State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share: said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, that in no case shall any State to which the land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States; but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents or less per acre: *And provided further*, that not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, that no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from the date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied, without diminution whatever, to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore mentioned provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than -- per centum per annum upon the par value of said stocks, and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 5 of this act), and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of the act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts :

First—If any portion of the funds invested as provided by the foregoing section, or any portion of the interest thereon, shall by any action or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished, and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms whenever authorized by the respective Legislatures of said States.

Second—No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third—Any State which may take or claim the benefit of the provisions of this act shall provide, within five years, at least, not less than one college as described in the fourth section of this act, or the grant to such State shall cease, and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchase under the State shall be valid.

Fourth—An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State, industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free, by each to all other colleges which may be endowed under the provisions of this act and one copy to the Secretary of the Interior.

Fifth—When lands shall be selected from those which have been raised to double the minimum in price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth—No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefits of this act.

Seventh—No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its Legislature, within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted,* That the land scrip issued under the provisions of this Act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted,* That the land officers shall receive the same for locating land scrip, issued under the provisions of this act, as is now allowed for the location of military bounty land warrants under existing laws: *provided,* their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted,* That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip, until the whole amount shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

THE HATCH ACT.

A copy of an Act of the United States, passed March 2d, 1887, known as the "Hatch Act."

AN ACT TO ESTABLISH AGRICULTURAL EXPERIMENT STATIONS IN CONNECTION WITH THE COLLEGES ESTABLISHED IN THE SEVERAL STATES UNDER THE PROVISIONS OF AN ACT APPROVED JULY 2D, 1862, AND OF THE ACTS SUPPLEMENTAL THERETO.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory established, or which may hereafter be established, in accordance with an act approved July 2d, 1862, entitled "An Act donating lands of the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station": *Provided*, that in any State or Territory in which two such colleges have been, or may be, so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the Legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigations or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important, and, in general, to furnish such advice as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the Commissioner of Agriculture, and the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the treasurer or other officer duly appointed by the governing boards of said college to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however*, that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act, and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations established by such States: and in case any State shall have established, under provisions of said act of July 2d aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or school, and said States shall have established or shall hereafter establish a separate agricultural college or school which shall have connected therewith an experimental farm or station, the Legislature of such State may apply in whole or in part the appropriation by this act made to such agricultural college or school; and no Legislature shall, by contract expressed or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, that payments of such installments of the appropriation herein made as shall become due to any

State before the adjournment of the regular session of the Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof; duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 2, 1887.

CALENDAR.

The College session begins on the first Thursday in September.

The First or Fall Term ends at Christmas.

The Second or Winter Term ends March 31st.

The Third or Spring Term ends with the session on the third Wednesday in June.

Commencement Day June 18th, 1890.

TABLE OF STUDIES.

FOR THE FOUR YEARS OF THE COURSE IN AGRICULTURE.

FRESHMAN YEAR.

Recitations.			*Practice.*		
Mathematics	5	hours.	Agriculture or Horticulture,	4	hours.
English	4	"	Shop Work	3	"
Chemistry	3	"	Drawing	2	"
History	2	"			
	14	"		9	"

SOPHOMORE YEAR.

Recitations.			*Practice.*		
Agriculture	2	hours.	Agriculture	4	hours.
Horticulture	2	"	Horticulture	4	"
Mathematics	5	"	Chemical Laboratory	4	"
English	4	"			
Agr. Chemistry	2	"			
	15	"		12	"

JUNIOR YEAR.

Recitations.			*Practice.*		
Agriculture	4	hours.	Agriculture	4	hours.
Horticulture	4	"	Horticulture	4	"
Agr. Chemistry	3	"	Chemical Laboratory	6	"
English	4	"			
	15	"		14	"

SENIOR YEAR.

Recitations.			*Practice.*		
Agriculture	4	hours.	Agriculture	4	hours.
Horticulture	4	"	Horticulture	4	"
Agr. Chemistry	4	"	Chemical Laboratory	6	"
English	2	"			
	14	"		14	"

Thesis.

First Curriculum, 1889-1890

FOR THE FOUR YEARS OF THE COURSE IN MECHANICS.

FRESHMAN YEAR.

Recitations.			*Practice.*		
Mathematics	5	hours.	Agriculture and Horticulture	4	hours.
English	4	“	Shop Work	3	“
Chemistry	3	“	Drawing	2	“
History	2	“			
	14			9	

SOPHOMORE YEAR.

Recitations.			*Practice.*		
Mathematics	5	hours.	Shop Work	7½	hours.
English	4	“	Drawing	5	“
Machinery and mill work	2	“			
Building and Materials, one-third of year	2	“			
Physics, two-thirds of year	2	“			
	15			12½	

JUNIOR YEAR.

Recitations.			*Practice.*		
Mathematics	5	hours.	Shop Work	7½	hours.
English	4	“	Drawing	5	“
Graphic Statics, one-third of year	2	“			
Surveying, two-thirds of year	2	“			
Steam and Steam Machinery	2	“			
	15			12½	

SENIOR YEAR.

Recitations.			*Practice.*		
Mathematics	4	hours.	Shop Work	7½	hours.
Applied Mechanics	3	“	Drawing	5	“
Bridges and Roads	2	“			
Lecture on Roads, Sewerage, Water, etc	2	“			
English	2	“			
	13			12½	“

Thesis.

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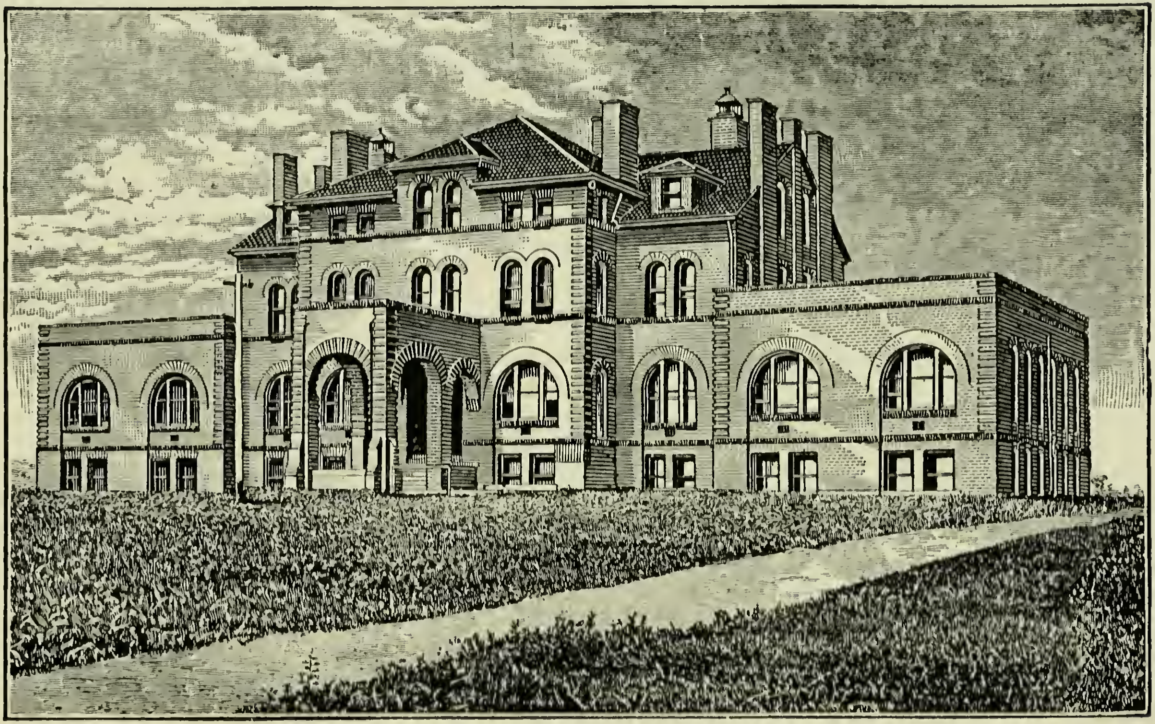

NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

SECOND ANNUAL CATALOGUE

OF THE

NORTH CAROLINA

COLLEGE OF AGRICULTURE AND MECHANIC ARTS,

RALEIGH, N. C.

JUNE, 1891.

Fall Term Begins on September 3, 1891.

RALEIGH:
EDWARDS & BROUGHTON, PRINTERS AND BINDERS.
1891.

TRUSTEES OF THE COLLEGE.

1.	†W. S. Primrose, President of the Board.	Ex. Com.	Raleigh, N. C.
2.	*W. F. Green,	Ex. Com.	Franklinton, N. C.
3.	†S. B. Alexander,	Ex. Com.	Charlotte, N. C.
4.	†Henry E. Fries,	Ex. Com.	Salem, N. C.
5.	†N. B. Broughton,	Ex. Com.	Raleigh, N. C.
6.	*A. Leazar,	Ex. Com.	Mooresville, N. C.
7.	*J. B. Coffield		Everett's, N. C.
8.	*W. R. Williams		Falkland, N. C.
9.	*C. D. Smith		Franklin, N. C.
10.	*S. L. Patterson		Yadkin Valley, N. C.
11.	*W. R. Capehart		Avoca, N. C.
12.	*J. F. Payne		Alma, N. C.
13.	*J. S. Murrow		Centre, N. C.
14.	*W. E. Stevens		Clinton, N. C.
15.	†Elias Carr		Old Sparta, N. C.

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*
Elias Carr.
A. Leazar.

Note.—The names marked * are members of the Board of Agriculture, and are appointed by the Legislature. Names marked † are appointed by the Governor and confirmed by the Senate.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
President.

JOS. R. CHAMBERLAIN, B. S.,
Professor of Agriculture.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry, and Secretary.

D. H. HILL, Jr., A. M.,
Professor of English.

J. H. KINEALY, D. E.,
Professor of Mechanics and Applied Mathematics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

R. E. L. YATES, A. M.
Adjunct Professor of Mathematics.

CHARLES M. PRITCHETT, B. S.,
Instructor in Mechanics.

CHARLES H. PARK,
Instructor in Practical Mechanics.

---------------------------*
Instructor in Chemistry.

B. S. SKINNER,
Superintendent of Farm and Assistant in Agricultural Practice.

J. N. HUBBARD,
Stewart.

Mrs. SUE C. CARROLL,
Matron.

* To be appointed.

OFFICERS

OF THE

North Carolina Experiment Station

AND

STATE WEATHER SERVICE.

H. B. Battle, Ph. D.,--------Director and State Chemist.
F. E. Emery, B. S.,------------Agriculturist.
W. F. Massey, C. E., --------Horticulturist.
Ollin E. Warren, -----------Assistant Horticulturist.
B. W. Kilgore, B. S.,---------Assistant Chemist.
F. B. Carpenter, B. S.,------Assistant Chemist.
J. R. Harris, ----------------Assistant Chemist.
T. L. Blalock, B. S.,----------Assistant Chemist.
Gerald McCarthy, B. S.,----Botanist.
C. F. von Herrmann, U. S. Signal Corps, Meteorologist.
J. L. Cunninggim, A. B.,------Secretary.

STATION COUNCIL.

Alexander Q. Holladay, *Chairman.*
H. B. Battle, Ph. D.
W. S. Primrose.
Elias Carr.
------------------*

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* To be filled.

STUDENTS.

SOPHOMORE CLASS.*

Name.	*County.*	*Admitted.*
Allen, Robert Wilson	Anson	1889.
Asbury, Samuel Erson	Burke	1889.
Ashcraft, Baxter Clegg	Union	1889.
Bagwell, Sidney Ivon	Wake	1889.
Bond, Lewis	Bertie	1889.
Bonitz, Henry Emil	New Hanover	1889.
Broughton, Lorenzo Joseph	Union	1889.
Brown, Henry Allen	Craven	1889.
Dawson, Walter D	Lenoir	1889.
Floyd, Frank Fuller	Granville	1889.
Francks, Charles Duffy	Onslow	1889.
Gibbon, Edward	Mecklenburg	1889.
Gray, George Pender	Edgecombe	1889.
Holladay, Charles Bolling	Wake	1889.
Knight, Joseph Lawrence	Edgecombe	1889.
Lytch, William McNeill	Richmond	1889.
Mathews, Walter Jerome	Buncombe	1889.
McKoy, James William	Buncombe	1889.
Meacham, Frank Theophilus	Wake	1889.
Sawyer, Frank McMurray	Duplin	1889.
Sellars, Carl DeWitt	Alamance	1889.
Seymore, Charles Edgar	Franklin	1889.
Smith, Arthur Green	Johnston	1889.
Temple, Walter Rand	Wake	1889.
Thorne, Buxton Williams	Halifax	1889.
Turner, William Harrison	Montgomery	1889.
Whitfield, James Richard	Lenoir	1889.
Wilfong, George Summey	Catawba	1889.
Williams, Charles Burgess	Camden	1889.
Yarborough, Lewis Thompson	Caswell	1889.
Young, Samuel Marvin	Wake	1889.

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*The College has been in operation only two ysars, hence has no Junior nor Senior Class.

FRESHMAN CLASS.

Name.	*County.*	*Admitted.*
ASHE, THOMAS MARTIN	Wake	1890.
BAILEY, LAMAR	Wake	1890.
BENSON, COSMO	Rockingham	1890.
BEST, WILLIAM R	Wilson	1890.
BLACK, BENSON HARRISON	Granville	1890.
BOSTICK, ORLANDO C	Cleveland	1890.
BOYD, PASCHAL S	Lincolnton	1890.
BROADHURST, JACK JOHNSON	Wayne	1890.
CARROLL, JUDSON CLIFFORD	Wake	1890.
CLARK, CHARLES EDGAR	Mecklenburg	1890.
CORPENING, CHARLES EDGAR	Caldwell	1890.
COX, DAVID J	Perquimans	1890.
DAUGHTREY, ALBERT WESLEY	Virginia (State)	1890.
DORTCH, JOHN S	Wayne	1890.
DOWD, CLEMENT	Mecklenburg	1890.
FAISON, SHERWOOD BADGER	Wake	1890.
GREEN, OSCAR DAVID	Wake	1889.
HARGROVE, PEYTON CLIFFORD	Edgecombe	1890.
HARRIS, JOHN ROBINSON	Mecklenburg	1890.
HINSDALE, SAMUEL JOHNSON	Wake	1889.
HOUSE, THOMAS MEREDITH	Granville	1890.
HOWLE, FREDERICK KEMP	Wake	1890.
HUGHES, MILES A	Chowan	1890.
HYMAN, FRANK R	Wayne	1890.
KIRBY, GEORGE H	Wayne	1890.
MCDONALD, FREDERICK	Wayne	1890.
MCGOWAN, CHARLES D	Duplin	1890.
MCGREGOR, JOHN ARTHUR	Richmond	1890.
MURPHY, WILLIAM F	Sampson	1890.
MURRILL, EDWARD W	Onslow	1890.
PARKER, SIMPSON M	Perquimans	1890.
PATTERSON, ROBERT D	Orange	1890.
PATTERSON, M. CABE	Orange	1890.
PEARSON, CHARLES	Polk	1890.
PERKINS, THOMAS ALSTON	Beaufort	1889.
PIGFORD, THOMAS	Sampson	1890.
POWELL, WALTER J	Vance	1890.
POWELL, JOHN N	Moore	1890.
POWELL, HENRY H	Moore	1890.
PULLEN, CHARLES G	Halifax	1890.
SHEPARD, ALFRED W	New Hanover	1890.

Name.	*County.*	*Admitted.*
SPENCER, JAMES A	Franklin	1890.
STREET, FREDERICK	Wayne	1890.
UNDERWOOD, LOUIS M	Johnston	1890.
WALTON, BENJAMIN FRANKLIN	Wake	1890.
WARD, JAMES M	Onslow	1890.
WETMORE, THEOPHILUS B	Rowan	1890.
WHARTON, RUFUS WATSON	Beaufort	1890.
WILLIAMS, ROBERT M	Sampson	1890.
WILLIAMS, BENJAMIN R	Duplin	1890.
WILSON, JAMES MCCAMY	Mecklenburg	1890.
WORTHINGTON, SAMUEL W	Nash	1890.

POST-GRADUATE.

BURWELL, ROBERT TURNBULL	Wake	1890.

Ph. B., University of North Carolina..........Chemistry.

A SHORT HISTORY OF THE COLLEGE.

The Watauga Club, of Raleigh, in January, 1885, after having given the subject considerable thought, memorialized the Legislature as follows, viz.:

"1st. To establish an industrial school in North Carolina, a training place in the wealth-producing arts and sciences.

"2d. To be located at Raleigh in connection with the State Agricultural Department.

"3d. To erect a suitable building and provide proper equipment.

"4th. That the instruction be in wood-work, mining, metallurgy and practical agriculture.

"5th. That necessary shops and laboratories be erected adjoining the buildings of the Agricultural Department, and that an experimental farm in the vicinity of Raleigh be equipped.

"6th. That an industrial school is of prime importance and greatly in demand."

The committee on behalf of the Club also furnished such information as they had been able to secure regarding the scope and utility of such an institution.

Several bills were introduced in that Legislature, the one drawn by Hon. A. Leazar becoming a law on March 7th, 1885, by a vote of 51 to 11 in the House and 23 to 9 in the Senate.

The act provides, among other features, as follows:

"1st. That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and when an adequate donation should be made by any city or town, there the school should be located, giving the place the preference which offered the greatest inducements.

"2d. That the school should be under joint control of the Board of Agriculture and directors from such town or city.

"3d. That the instruction should be in wood-work, mining, metallurgy, practical agriculture, and such other branches of industrial education as may be deemed expedient.

"4th. That the Board of Agriculture should be authorized to apply annually $3,000 of the surplus funds of their department to the establishment and maintenance of said school."

After successive advertisements and many meetings, in which the subject was fully discussed, the Board of Agriculture accepted an offer made by the city of Raleigh, and appropriated the sum of $5,000 for that year, 1886, pursuant to the terms of the act.

Before this result was attained, the earnest advocates of the measure met in mass-meetings on several occasions, at which committees were appointed to prepare full information and statistics. Prominent citizens of the State from various sections manifested a lively interest in the scheme, and matters were assuming a definite shape for the commencement of the school, as shown by the payment of the amount subscribed by the city of Raleigh, the purchase of a site, etc., when certain events gave a different and broader scope to the work designed to be accomplished.

Two large meetings of the farmers of North Carolina were held in Raleigh, respectively on the 18th and 26th of January, 1887. The first of these meetings, among other things, resolved that the farmers ought to have an agricultural college; and further, that the interest on the land scrip fund should be given for a part of its support. The second meeting, with representatives from forty counties, reiterated the resolution referred to as passed by the convention of January 18th, and also considered favorably a proposal of the city of Raleigh to combine the industrial school with the desired agricultural college, offering the funds already in hand, with whatever the Legislature might provide, for such an institution.

After an exciting discussion, a bill for such Agricultural and Mechanical College became a law in the Legislature of 1887, by a vote of 68 to 19 in the House of Representatives and 29 to 13 in the Senate.

Thus the scheme for the North Carolina College of Agriculture and Mechanic Arts was inaugurated, and the State took a most important and progressive step in behalf of agriculture and mechanical development.

OBJECT AND AIM OF THE COLLEGE.

The mission of the North Carolina College of Agriculture and Mechanic Arts can be gathered from a perusal of sections or synopsis of the State law and the Acts of Congress quoted in this pamphlet. But it will not be amiss to give here a brief statement of what it is designed to accomplish.

Its general purpose is so to teach the principles and applications of the sciences, illustrating sound theory by daily practice, as to make out of its students useful and successful men, instead of mere intelligent drones.

"One of the special objects of the college is to foster a higher appreciation of the value and dignity of intelligent labor and the worth and respectability of laboring men. A boy who sees nothing in manual labor but mere brute force, despises both the labor and the laborer. With the acquisition of skill in himself, comes the ability and willingness to recognize skill in his fellows. When once he appreciates skill in handicraft, he regards the workman with sympathy and respect."

The Jews in scriptural times taught each boy a trade, in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time, in this and other countries, have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such instructions as we are now commencing is calculated to work out such economic results.

In an Agricultural and Mechanical College, the student is taught to know that work is honorable; and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. The labor is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the practical education which will be given by the Agricultural and Mechanical College and the established colleges and the University of the State. Taking our College as one department of learning, and the above named institutions as another, their spheres are widely different, and they should be of practical benefit each to the other and both to the commonwealth.

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction; in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle raising and the production of dairy products; in its trucking interests, fruit and small fruits; in its ores and minerals; its lumber and hard woods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, skill and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State as far as it can reach them in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an Agricultural and Mechanical College, in which the very best methods and results can be studied and worked out practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock raisers, dairymen—men who will be interested in their work, and who will make their work profitable.

The State also has need of good mechanics, carpenters, draughtsmen, contractors, manufacturers, architects, civil and mechanical engineers, and the College will help to make them.

In conclusion, while the College will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure, of the members of the Faculty of the College to take an active part in farmers' institutes, which are accomplishing so much of good in many States in the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands. They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, etc. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, etc.

COURSES OF INSTRUCTION.

THE GENERAL COURSE IN AGRICULTURE.

All students will pursue the same studies throughout the Freshman year, and the Agricultural Course will not assume its separate and distinctive form until the Sophomore year.

In the Freshman year, therefore, students looking to the specific course in Agriculture will, in addition to their elementary work in this line, acquire dexterity in the use of wood-working tools and in mechanical drawing.

In the Sophomore year a partial separation will take place: agricultural students will give up the shop and drawing, and will proceed with the studies leading to the degree of Bachelor of Science in Agriculture.

This course includes the departments of General Agriculture, Horticulture, Arboriculture and Botany, Chemistry, History, English and Book-keeping.

MANUAL LABOR IN THE AGRICULTURAL COURSE.

While all students in this course are required to perform such manual labor in the hours for practice as in the opinion of the professors is necessary and instructive, they are not required to waste time in matters of mere drudgery, of which the majority of them have already learned enough before coming to us. We endeavor to keep in view the fact that our course is not intended as a training school for farm laborers, but for the development of brain power in Agriculture and Horticulture, and the training of the administrative ability of students in directing the great army of uneducated muscle which constitutes our farm hands. While taught that no labor is beneath the dignity of a thorough farmer when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American agriculture, and thus send them out as *leaders in improvements,* instead of mere followers in ruts of other men's making.

The illustrative facilities and means for practical demonstration of the College have been greatly increased by the uniting with it the Hatch Agricultural Experiment Station, supported and maintained by the United States Government. The investigations constantly in progress at the Station not only serve the purpose of placing the student in an atmosphere of original investigation, but also serve the purpose of developing his own powers of observation and quickening his perceptions. The students will be furnished in the Senior year special facilities for pursuing original work in preparing graduating theses—subjects for which may be selected from original work in either Agriculture, Horticulture, Botany or Agricultural Chemistry.

THE GENERAL COURSE IN MECHANICS.

This not a trade school, and it is of course not expected that our students shall necessarily adopt a trade, but if any should desire to do so, the training given here in the principles underlying all mechanical trades, as well as in their application, will make smooth the way and give the right start to all students who can remain but one or two years, preferring then to take up a trade rather than to work on to the graduating degree, which will give them position as Civil or Mechanical Engineers.

An examination of the work for each year, as shown in the table at the end, will give an accurate idea of the qualifications of each student at any given point in the course, whether his purpose may be to adopt a trade, or only to direct with intelligent skill operations of his own business, or to seek employment in the highest branches of engineering.

As every American is a probable land-owner at some period of his life, it is thought best that, during the Freshman year, students looking to a degree in the Mechanical Course shall take the same studies as the students of Agriculture, thereby acquiring such knowledge of the general principles of agriculture, of the composition of soils, of plant life and botany as must be of use to every intelligent citizen.

But in the Sophomore year the courses divide. Those who aspire to a diploma in Mechanics give up all work pertaining especially to agriculture, and begin the special work of the Mechanical Course leading up to the degree of Bachelor of Engineering.

This course includes the department of Mechanics, the department of Mathematics, the department of Chemistry, the department of History and the department of English and Book-keeping.

The graduating thesis shall have for its subject some part of the work in Mechanics, to be approved by the Professor of Mechanics and Applied Mathematics.

FRESHMAN CLASS AT WORK TRUCK GARDENING.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. CHAMBERLAIN.

ASSIST. PROF. EMERY.

The aim of this department is to make its pupils practical farmers, as well as thorough students. In order to accomplish this end, practice and theory must go hand in hand. Science is the foundation on which improved agriculture is based.

In the class-room we must study the Science of Chemistry, Physics, Botany, Zoology, Entomology, Physiology, etc. In the field we must study the laws of Nature, learn to observe and become familiar with the little details incident to agricultural pursuits, and apply our knowledge in agricultural practice.

All the students in this course will be required to work in the farm workshops, in the barns and in the fields, under the direct supervision of the Professor of Agriculture.

The field and shop-work supplements the lectures and recitations in such a way that the application and value of the principles taught may be thoroughly understood and remembered by the students. As much time will be given to practical work as circumstances will permit.

FRESHMAN YEAR.

All students entering college will, during the Freshman year, give one hour a week to recitations, and two hours a week to practical work in the field.

Text-book: Public School Agriculture, by Mills & Shaw.

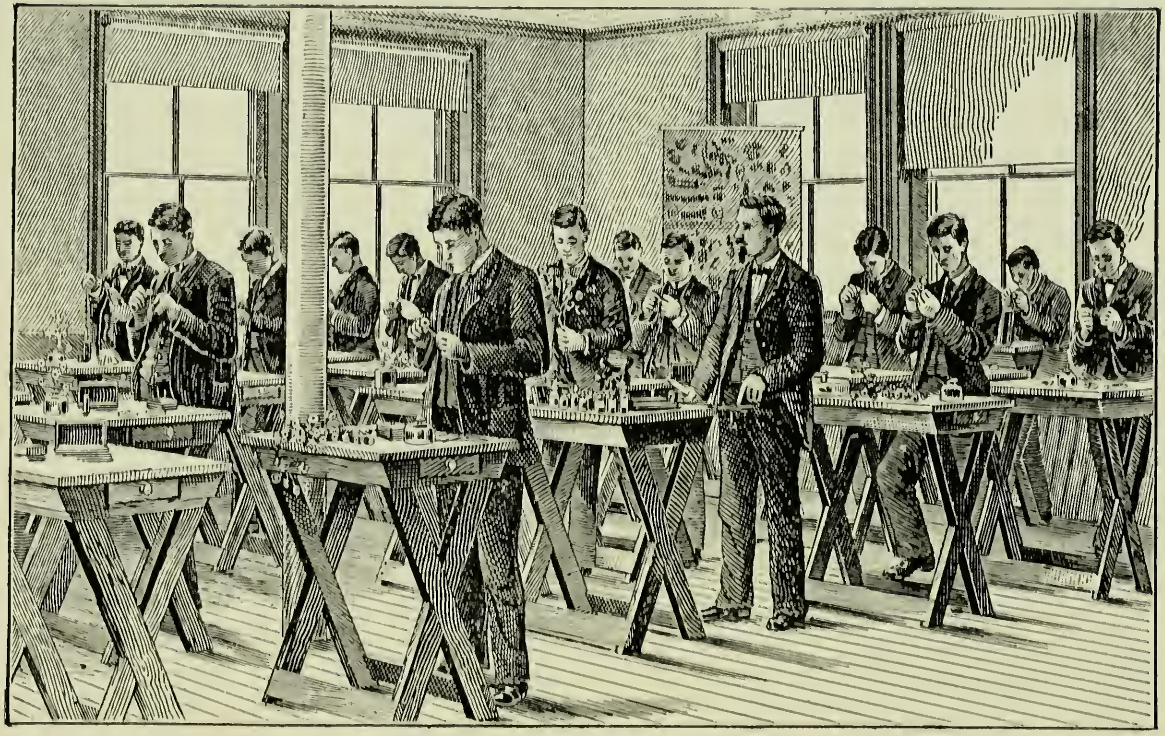
SOPHOMORE YEAR.

During the Sophomore year students in the course in Agriculture will devote six hours a week to the study of Comparative Anatomy, Physiology and Hygiene of farm animals. Special study will be given the digestive tract, and the food required by different kinds of animals; the general laws of nutrition; the chemical composition of feeding-stuffs, with reference both to the feeding and manurial values; the feeding of farm animals; the effect of dry or succulent and concentrated or bulky foods; feeding rations for fattening, work, and dairy animals; the general laws of heredity, and principles of stock-breeding.

Blacksmithing, five months of the year, four hours per week. During this term the work as given above will be reduced to two hours per week.

JUNIOR YEAR.

Lectures and practical work seven hours a week in farm buildings, fences, implements and permanent improvements. The study of domestic animals, history and description of various breeds of horses, cattle, sheep and swine, with their merits and demerits. General notes on care of stock and selection for specific purposes, whether for work, dairy or fattening, with special reference to their breeding and development. Dairy practice, the construction of dairy buildings and management of dairy machinery and equipment, the latest and most approved methods of conducting a dairy business; effect of food, exposure and treatment of cows on the quantity and quality of milk, utilization of the products of the dairy, packing and shipping of dairy products, and study of the peculiarities of markets.



FRESHMAN CLASS IN BOTANICAL LABORATORY.

SENIOR YEAR.

Lectures and practical work seven hours a week in farm surveying and leveling, plotting results and making profiles for the establishment of farm drainage, irrigation, road and bridge making; farm manures, their composition and value, best methods of application; chemical fertilizers, with their adaptation to certain soils and crops; soil renovation; planting, cultivating and harvesting of farm crops; various questions relating to farm accounts, buying and selling; general farm economy. Thesis.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROF. MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but systematic Botany will also receive due attention. It will not be taught by the mere memorizing of any definitions, but by a practical study of the characteristics of plants upon which classification is founded. The student will prepare a series of progressive schedules of the characters of all parts of plants and flowers from a study of the plants themselves, thus training his powers of observation so that when he comes to the identification of plants for herbarium preservation, he will have no temptation to make "short cuts" as though the name was the only object sought.

The effort will be made to include in the first two years of the course those branches most essential to the Market Gardener, Fruit Grower and Florist, so as to give those students who do not remain longer with us a short practical course.

The subsequent years will be devoted to advanced work in Cryptogamic Botany, Entomology, etc.

Those who complete the whole course will receive instruction in all the branches needed by a Professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road working, the construction of horticultural buildings, and forest improvement.

The new greenhouse at the College, and the greenhouse and glass grapery at the Experiment Station, where exotic grapes are grown under glass, furnish means for practical study and illustration.

COURSE OF STUDY.

Freshman Year.

Lectures and practical illustrations in the elements of plant structure and physiology, and on the principles of Horticulture as applied to market gardening and small fruit culture. Once a week.

Practice in the vegetable garden, frames and greenhouse. Two hours a week.

SOPHOMORE CLASS.

Systematic Botany and Pomology. Two hours weekly lectures.

Practice in building, grafting, pruning and training of fruit trees and vines, and in general nursery methods. Collection and classification of plants for herbaria. Four hours a week.

JUNIOR CLASS.

Lectures on Cryptogamic Botany, Entomology and the use of the Compound Microscope, Forestry and the study of Woods and Timbers. Three hours weekly.

Laboratory study of minute forms of vegetable and animal life with the Compound Microscope. Collection and Classification of Insects. Four hours weekly.

SENIOR YEAR.

Lectures on Landscape Art, Road-making, Grading and Horticultural Construction, Exotic Horticulture, History of Cultivated Plants and the Origin of Floral Structures.

Laboratory study of Fungi, with special reference to Plant Diseases. Field practice in use of Engineering Instruments in landscape work and farm surveying.

DEPARTMENT OF PURE AND AGRICULTURAL CHEMISTRY.

PROF. WITHERS.

MR. ——————.

This department occupies all the north-east wing of the first floor of the Main Building, and consists of five rooms, as follows: General Laboratory, Lecture Room, Store Room, Private Laboratory, and Office.

The Chemical Laboratory is 37 by 19 feet and is well lighted. It is supplied with fume closets, evaporating baths, drying chamber, blast lamp, and extra stone-covered tables, and has accommodations for fifty-six students, twenty-eight of whom may work simultaneously. The analytical tables are of yellow heart-pine with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus, and has three feet of working space. Each working space is provided with gas, water, a sink and shelves supplied with re-agents.

The Chemical Library contains a carefully selected list of standard text and reference books—including those used by the department—and also the current numbers of the American Chemical Journal, Journal of Analytical and Applied Chemistry, Journal of the Society of Chemical Industry, Journal of the Chemical Society (London), Journal für Landwirthschaft, Fresenius' Zeitschrift, für Analytische Chemie, Berichte der Deutschen Chemischen Gessellschaft, and others. This library has been placed in one of the rooms of the department adjacent to the Laboratory, and the student is encouraged to make free use of it.

The Chemical Museum contains specimens illustrating the work in Pure and Agricultural Chemistry. It will be added to from time to time.

No laboratory fee is charged for materials consumed, but a deposit is required from each student at the beginning of the year to cover breakages of apparatus; any unused balance is returned.

Instruction in this department begins with the second half of the Freshman year (the first half being devoted to Physics), and continues through the Sophomore year for all students. It occupies a portion of the whole course of the agricultural students.

The following courses are offered:

I. INTRODUCTORY CHEMISTRY—FRESHMAN CLASS.

Recitations three hours weekly for second half year.

Some of the typical elements and their more common compounds are studied, with some of the simpler principles underlying the science. Full experiments are performed in the class-room. This course is aimed to give the student the chemical knowledge needed for beginning the work of other departments, and to prepare him for those courses which follow in this. For those students who are unable to pursue their college course beyond this point, it will be an aid for private reading and study of agricultural literature.

Text-book: Williams' Introduction to Chemical Science.

II. INORGANIC CHEMISTRY—SOPHOMORE CLASS.

Lectures and Recitations three hours weekly—Laboratory Work two hours weekly.

This work is both descriptive and theoretical, instruction being given by lectures, recitations and supplemented by experiments performed in the laboratory by the student. The common elements and their principal compounds are studied. Much stress is laid on the writing of equations of the solution of chemical problems and class-room experiments.

As the work proceeds, the student is encouraged to make free use of the reference books in the Chemical Library.

In the laboratory the student records the results of his experiments in a note-book, for frequent examination and correction.

Text-book: Shepard's Elements of Inorganic Chemistry.

Reference books: Roscoe and Schorlemmer, Remsen, Wurtz, Richter.

III. AGRICULTURAL CHEMISTRY—JUNIOR CLASS.

Lectures and Recitations three times per week.

The work follows closely Mayer's Lehrbuch der Agrikulturchemie.

Attention is given to a consideration of—

The atmosphere as a plant feeder; the plant—its mineral and organic ingredients and their functions; the soil—its composition and origin, its physical and chemical properties, its agency as a storage reservoir and as a plant feeder; effect of drainage, tillage, burning and fallowing; amendments; fertilizers; farm manures; green manuring.

Foddering substances—their composition and valuation; ensilage.

Animal chemistry; stock feeding; chemistry of butter, cheese and milk, etc., etc.

Reference books: Storer's Agriculture; Johnson's How Crops Grow, and How Crops Feed; Johnston's and Cameron's Agricultural Chemistry.

IV. QUALITATIVE ANALYSIS—JUNIOR CLASS.

Laboratory work six hours per week.

The student is brought to see the natural division of the elements into general groups. He is familiarized with general and individual re-actions, and taught by these to identify the presence of elements in unknown compounds. Some time is given each week to the writing of equations.

Text-book: Caldwell's Chemical Analysis (Qualitative portion).

Reference books: Fresenius, Douglas & Prescott.

V. QUANTITATIVE ANALYSIS—SENIOR CLASS.

Laboratory work eight hours weekly.

The introductory work in this course consists of the gravimetric and volumetric estimation of iron, assay of limonite, estimations of sulphuric anhydride, acidimetry and alkalimetry, estimation of lead, of phosphoric anhydride and calcium. After this the student is given practice in the analysis of marls, mucks, feeding-stuffs, water, fertilizers, soils, and such other work as the Agricultural Chemist is usually called upon to perform.

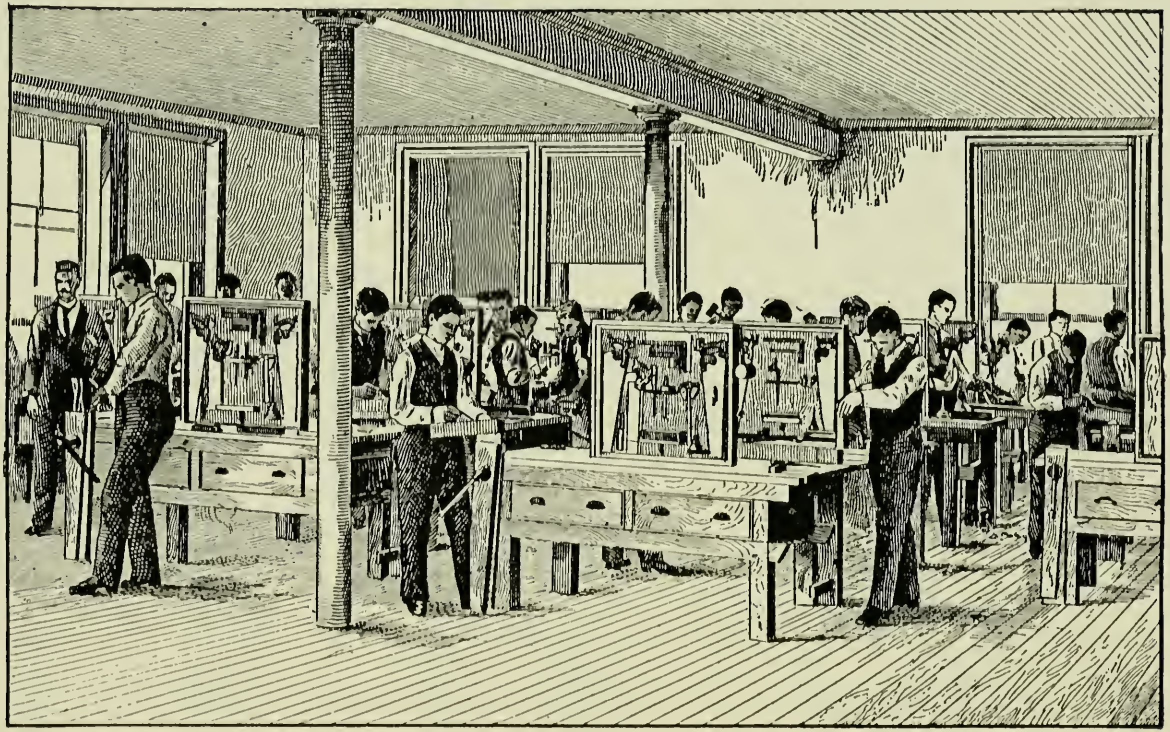
Text-books: For the introductory work Caldwell's Chemical Analysis; quantitative portion.

Reference books: Fresenius, Sutton's Volumetric Analysis, Cairns, Caldwell's Agricultural Chemical Analysis, and Methods of the Association of Official Agricultural Chemists.

VI. ORGANIC AND THEORETICAL CHEMISTRY—SENIOR CLASS.

Lectures and Recitations three hours per week.

Students who can do so will, in addition to the recitations, devote about six hours per week to the preparation of organic



FRESHMAN CLASS AT WORK IN CARPENTER SHOP.

compounds, supplementing the text-book by those of Levy, Fischer and Cohen.

Text-books: Remsen's Organic Chemistry and Remsen's Theoretical Chemistry.

Reference books: Richter, Roscoe and Schorlemmer, Muir's Principles of Chemistry, Lothar Meyer's Modern Theories of Chemistry.

DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

PROF. KINEALY. MR. PRITCHETT.
MR. PARK.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering. In the class-room work of this department it will be necessary to use text-books to a great extent, but they will always be supplemented by explanations and lectures.

The course, as laid out, is intended to give to those who complete it such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments, and in the management of machinery, as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose. No speciality, as yet, is made either of mechanical engineering, civil engineering or architecture; but those fundamental principles which underlie, and form the bases of all, are taught to the student.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood. His greater or less degree of skill will, of course, depend largely upon his natural ability.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Machinery and Mill-work.—This includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys, in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

As far as possible, this subject will be made clear and plain by explanations in the shop building and visits to neighboring manufacturing establishments.

Building and Building Materials.—This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts, and the correct methods of making and fixing each in its relations to the others. They are also taught to make estimates and bills of materials.

JUNIOR YEAR.

Steam and Steam Machinery.—This is a study of engines and boilers, and steam-plants in general. A text-book will be used. Work will be done with the engine and boiler. The students will learn to fire the boiler and tend the engine.

Graphic Statics.—The student learns to determine the stresses in framed structures, bridge and roof-trusses by the graphic methods. This study is a prelude to the subject of Bridges and Roofs in the next year, and is taught entirely by lectures.

Surveying.—During the Winter the students will confine their attention to a theoretical study of the principles of surveying, and in the Spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land. They will in this way become thoroughly familiar with the theory and practical use of surveying instruments.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—The students are here taught the analytical methods of determining the stress of the various members of a roof or bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures on Machinery-plants, Water-works, Sewerage, etc. Part of this will be a continuation of Steam and Steam Machinery, with special attention to the designing of steam-plants for particular purposes. The remainder of the time will be devoted to water-works, sewerage, etc.

PRACTICAL WORK.

During the Summer of 1890 a large shop building was erected.

The building is a two-story building, and contains on the first floor, Machine Shop, 30 x 40 feet; a Forge Shop, 30 x 40 feet; an Office and Class-room, 23 x 24 feet, and a Wash-room, 10 x 23 feet. On the second floor is a Wood Shop, 30 x 40 feet; a Carpenter Shop, 30 x 40 feet, and a Drawing-room, 23 x 35 feet.

After the building was completed the Carpenter Shop, Forge Shop and Drawing-room were fitted up so that during the last year the practical work in this department has consisted of work in the Carpenter Shop, Forge Shop and Drawing-room.

The carpentry shop is equipped with thirty carpenter-benches and all the necessary tools for each bench.

Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench.

These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him, a jack-plane, ¾-inch chisel, ½-inch chisel, ¼-inch chisel, a slip-stone and a two-foot rule. These tools are used only by the student to whom they are issued, and he is held responsible for them. He is required to keep them sharp and in good order, and upon leaving college to return them to either the professor or his assistants.

All the exercises in the shop are designed simply for the instruction of the students. Nothing is made for sale. It is the training of the student only for which the exercises are designed.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on it all the necessary dimensions and notes.

This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

In the beginning of the course the instructor explains to the class the meaning of the various conventional signs on the drawings, and, also, shows each student how to "lay out" his work from the drawing. As the students acquire facility in reading the working drawings, and skill in "laying out" work, and in handling tools, the exercises are made more difficult.

When an exercise is given to the class, the instructor explains where and how the joint or work illustrated by that particular exercise is used in practical construction.

All the students of one class are at work upon the same exercise at the same time. And those who, by reason of their natural aptness and ability, finish their exercise before the others, are given pieces of work to do for the college, or are given an extra exercise to keep them busy.

It must be remembered that all work done in the shop, whether as an exercise or in the construction of an article for the college, is done from drawings.

The forge shop is fitted up with twenty forges. Each forge is equipped with a water-tank, shovel and poker. For each forge there are provided the following tools: an anvil, hammer, steel square, tongs and hardy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels for general use in the shop.

The work in the forge shop consists of a number of graded exercises by which the students are taught to work in iron and steel. The students begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools, and may learn to work fast. They are then taught how to build and tend the fire, and to heat iron. When they can do this, they forge simple shapes out of hot iron. They learn to "bend," to "draw," to make "scarfs," and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they are taught to work with steel and to temper it, and are given a short course in tool-making.

The course of work in the forge shop for the students in the Agricultural Course is shorter than that for the mechanical students and is laid out specially for them.

During the Summer a boiler-house will be built, and an engine and boiler be fitted up. The wood-working shop will be equipped with a number of lathes, a circular saw, a band-saw machine, a pony planer, a board matcher, a mortising and boring machine, and a great number of hand tools that belong in a wood-working establishment.

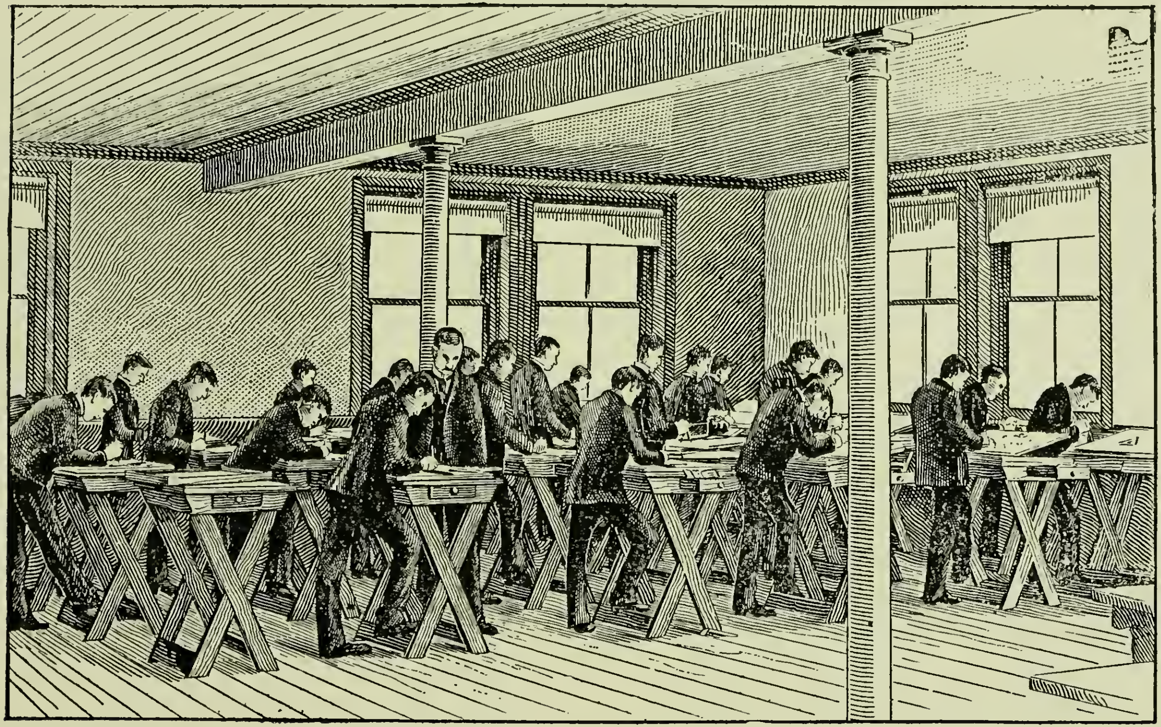
This will be ready for the students of the Junior Class when they return to the College in September, 1891. The students will have practice in tending the engine and boiler, and in looking after the machinery of the shop.

Next Summer, 1892, it is intended to equip a machine-shop with all the necessary machines and tools for working in iron.

DRAWING.

During the Freshman year all the students in the College take a course in drawing. The drawing of this year consists of a little free-hand sketching, a course in lettering, and the elements of mechanical drawing

After the Freshman year each student taking the Mechanical Course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and details of work and machinery already built and set up. The



FRESHMAN CLASS AT MECHANICAL DRAWING.

students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked, lettered and finished as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior Class he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shop are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making drawings of objects that already exist.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

DEPARTMENT OF MATHEMATICS.

ADJUNCT PROF. YATES.

The course in mathematics begins at the beginning of the Freshman year, and continues during the whole four years for the mechanical students. The agricultural students drop the study of mathematics at the end of the Sophomore year.

The course is substantially as follows:

Freshman Year.—Arithmetic completed and Algebra begun.

Sophomore Year.—Algebra completed and Geometry begun.

Junior Year.—Geometry completed and followed by a course in Analytical Geometry.

Senior Year.—Calculus.

Trigonometry will be taken with surveying during the Junior year.

ENGLISH DEPARTMENT.

PROF. HILL.

No matter what a young man's purpose for life may be, a systematic training in English is desirable. By this training he acquires such a knowledge of the capacities of his own language, such a familiarity with its forms and its laws, such a command over its resources, as will enable him to think with force and express himself with accuracy and vigor. In addition, the critical study of our literature sets high standards of excellence before the student, and strengthens his mind by requiring a digestion of the best thought of the best brains.

The work of this department begins the first year and continues for four years, and is required of both agricultural and mechanical students.

FRESHMAN CLASS.

This class recites by sections, each section four times a week. The work for the year is mainly a study of the laws of expression. Gilmore's Art of Expression and Lockwood's English are used as text-books. Incidentally a study is made of words, prefixes, suffixes, synonyms, idioms and the relationship of the Latin and the Saxon element. Written exercises are constantly required, but, in this year, the material for these is suggested or given, and the student's attention is mainly directed to correctness of expression.

SOPHOMORE CLASS.

Four Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by the Elements of Rhetoric. In this course in Rhetoric, special attention will be given to the analysis of themes and their subsequent elaboration, step by step. This work will be done in the lecture-room, and no pains will be spared in trying to develop the student's imaginative and constructive faculties. Parallel to this work, selections from Irving, Prescott and Poe, together with several of our best Americanpoems, will be critically read and discussed.

JUNIOR CLASS.

Four Recitations a Week.

The first part of this year will be spent on Logic and Logical praxis. This will be followed by Higher Rhetoric, Rhetoric as it has to do with invention, its processes and its dealings with the different kinds of discourse. Linguistic studies will also take up a portion of the time of this class. Extracts from Ruskin's Modern Painters, two of Bacon's essays, some of Gray's and of Dryden's poems will constitute the parallel reading.

SENIOR CLASS.

Two Recitations a Week.

Literature, English and American, will occupy the year. Historical periods will be studied first, and then the literature of those periods. A course of lectures on English Poetry and on the Novel will be given. Marlowe's Faustus, Otway's Venice Preserved, and three plays of Shakespeare will be read and discussed in the lecture-room. The parallel reading for this class will be assigned individually, and courses mapped out that seem best suited to each student's taste.

Throughout this whole course compositions, essays and criticisms will be written regularly.

DEPARTMENT OF BOOK-KEEPING.

ADJUNCT PROF. YATES.

Both Agricultural and Mechanical students take Book-keeping in the Freshman and Sophomore classes. In the Spring and Summer Terms of the Freshman year, Single-Entry is studied. The work in the text-book will be supplemented by numerous original examples and sets for practice. This class recites twice a week.

The Sophomore class will recite twice a week during the Spring and Summer Terms. The time of this class will be given entirely to Double-Entry, and to a practical application of the principles of Book-keeping to branches of business that are not strictly mercantile.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course students will be given a familiar knowledge of the history of their own country and state, and an outline of general history, both ancient and modern. They will be taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort will be directed towards teaching students how to read, and to think, rather than to recite.

Instruction will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided to outside readings on special subjects, for which the College Library will afford ample conveniences.

LOCATION.

The College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence, on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from its corporate limits, the site is, in all respects, a suitable one The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about three years, and the land is being brought up mainly by judicious vegetable manuring. More land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake County, and the brown-stone from Wadesboro, Anson County.

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, etc., are well arranged.

A carefully planned brick workshop, two stories high, has been erected, and in use since September, 1890. This building contains a machine-shop, forge shop, woodworking shop, carpenter shop, class-room, office and wash-room, and is equipped for thorough work in every particular.

It is intended to erect, as rapidly as means will permit, barns, silos, stables and the like, which shall be models of their kind. Meanwhile, for all purposes of instruction, students will have the use of the large buildings for such purposes, already erected on the Experiment Station Farm, near by the Agricultural and Mechanical College.

In the basement of the main College building every convenience has been provided for housekeeping, and no facility is lacking in the boarding department. The cost of table-board alone will, under no circumstances, exceed eight dollars per month, and it is in contemplation to arrange for a mess system under which students, assisted by a steward and well equipped kitchen, store-rooms and dining-hall, all provided by the College, may regulate their own expenses, and by co-operation, perhaps effect some further reduction of cost.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, with convenient bath-rooms on the second floor. Additional dormitory accommodation is now being provided to meet the pressing demand for more room and the new building will be completed by September 1st.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore, or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

DEGREES.

Two degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science in Agriculture (B. S. Agr.). Upon those who, through four years, have done likewise in the Mechanical course, the degree of Bachelor of Engineering (B. E.) will be conferred.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

A majority of the students are consistent church members, and have united in a Young Men's Christian Association, which meets once each week. Its meetings are well attended, and exert a most beneficial influence.

LITERARY SOCIETIES.

There are two literary societies in the College, the Pullen and the Leazar, and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation and debate, and students will find in either congenial associations.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid seven cents per hour.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student rather than to the dread of penalties

For minor deficiencies or irregularities, proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit, and hold their sons to strict account for them, since, if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through two entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants must be at least fourteen years of age; must furnish evidence of good moral character and physical development; must understand the forms and laws of their own language fairly well, and must be familiar with Arithmetic, including the practical rules of the same, through fractions, and have a fair knowledge of geography and State history.

MODE OF ADMISSION.

On the second Thursday in July and September, or such other days as may be decided on by the County Boards of Education, applicants (said applicants to be restricted to the provisions of section 8, chapter 410, Laws of 1887) for admission to the College will present themselves before the County Superintendent of Education, and submit to an examination by written questions, which will be prepared and furnished by the President of the College to the said Superintendent, who is requested to make sure that candidates receive no help in their examinations.

The Superintendent will please forward all completed examinations to the President of the College *without delay*, in order that there may be sufficient time for their careful perusal, after which the Faculty of the College will issue certificates of appointment to such as show themselves qualified to enter the Freshman class. All successful candidates will be notified of their appointment, and must present themselves at the College at such time as may be designated by the President.

The same educational qualifications will be required of all other applicants, and their examination conducted by the Faculty upon arrival.

Students after arriving in Raleigh must report at the College at once.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to its rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected, at all times, to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever service is not held in the College building.

CLOTHING, ETC.

No uniform suit is required. Each student should bring a bag in which to send washing to the laundry, and must make out washing-lists on blanks, which will be furnished by the Matron, who will see that all articles delivered to her will be safely handled and returned. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm, or in the workshop; in any event, a pair of overalls for such work.

Each occupant of a dormitory will be expected to keep his room, or section of a room, in good order, and ready for inspection at any time.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost.*

BOARD AND LODGING.

Board and lodging will be furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month and lodging as below stated. It is understood that none except county students are expected to lodge and board in the College buildings. There not only is no objection, but it may be more convenient and desirable that regular pay students obtain board and lodging outside the College building—such boarding places to be subject to the approval of the Faculty.

APPROXIMATE COST TO STUDENTS.

I. COUNTY STUDENTS.

1. Tuition free.	
2. Board at $8 per month, per session 10 months	$ 80 00
3. Washing at 75 cents per month (estimated)	7 50
4. Books, fuel and medical attendance for entire term	12 50
Total	$100 00

II. FOR OTHER STUDENTS.

1. Tuition per session	$ 20 00
2. Board at $8 per month, 18 months	80 00
3. Washing at 75 cents, term 10 months	7 50
4. Books, fuel and medical attendance for entire term	12 50
5. For lodging in College building, room, furniture, bedding, etc	10 00
Total	$130 00

Each student must also deposit on entering a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

All students must furnish their own oil, lamp chimneys, and stationery, and the Steward will furnish these at cost prices.

NOTE.—County students who are accommodated with lodging in the College building will be furnished with room, or section of room, furniture and bedding, without cost. Pay students will be given similar accommodations at $10 per term when room admits. Should the lodging accommodations of the College be filled with county students, room, fuel and lights can be had in families in immediate neighborhood at $10 per month.

ACTS OF LEGISLATURE AND CONGRESS IN RELATION TO THE COLLEGE.

The act under which the College was established became a law on the 7th day of March, 1887, and reads as follows:

AN ACT SUPPLEMENTAL TO CHAPTER 308, LAWS OF 1885, ENTITLED "AN ACT TO ESTABLISH AND MAINTAIN AN INDUSTRIAL SCHOOL."

The General Assembly of North Carolina do enact:

SECTION 1. That the Industrial School provided for in chapter 308, Laws of 1885, shall be denominated "The North Carolina College of Agriculture and Mechanic Arts," and shall be located on the lands offered to be donated, in accordance with the provisions of said law, by R. Stanhope Pullen, of Raleigh, Wake County, lying west of and near the city of Raleigh.

SEC. 2. The leading object of this College shall be, without excluding other scientific and classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

SEC. 3. The management and control of the said College and the care and preservation of all its property shall be vested in a board of trustees to be composed of the Board of Agriculture of North Carolina, and five other persons who shall be appointed by the Governor, by and with the consent of the Senate, who shall have power to appoint its President, instructors, and as many other officers or servants as to them shall appear necessary and proper; and shall fix their salaries and prescribe their duties; they shall also prescribe rules for the management and preservation of good order and morals at the said College, as are usually made in such institutions, and are not inconsistent with the Constitution and laws of the State; have charge of the disbursements of its funds, and have general and entire supervision of the establishment and maintenance of the said College. And the President and instructors in the said College, by and with the consent of the said board of trustees, shall have the power of conferring such certificates of proficiency, or marks of merit, as are usually conferred by such colleges: *Provided*, that the board of trustees shall be composed half of each political party.

SEC. 4. The certificate of indebtedness of this State for one hundred and twenty-five thousand dollars, issued for the principal of the Land Scrip Fund to the trustees of the University of North Carolina, and bearing interest at six per cent. per annum, shall be transferred, on the thirtieth day of June, eighteen hundred and eighty-eight, or as soon thereafter as it shall appear that the Agricultural and Mechanical College is ready to receive the interest on the Land Scrip Fund, and that the principal of the fund will not in any way be compromised by such a transfer to the said board of trustees for the benefit of the said North Carolina College of Agriculture and Mechanic Arts, and the interest thereon shall thereafter be paid to them by the Treasurer, semi-annually, on the first day of July and January in each year, for the purpose of aiding in the support of the said College in accordance with the provisions of the act of Congress, approved July 2d, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts."

SEC. 5. That the Directors of the North Carolina State Penitentiary shall be required to furnish all brick and stone requisite for the erection of the necessary buildings of the said College, and to furnish convict labor for preparation of the grounds and the foundations, the erection of the said buildings, and for such other purposes in connection with the establishment of the said College as they may be able, such material and labor to be free of charge to said College: *Provided*, that the work required of the Penitentiary shall not interfere with any contracts upon which the Penitentiary may be engaged, and that the work by the Penitentiary shall be limited to two years from date.

SEC. 6. That the Board of Agriculture shall turn over to the Board of Trustees of said College, as provided in this act, to be applied to the establishment, maintenance and enlargement of the said College, all funds, land, material and other property which may have accumulated in their hands, for the establishment of an Industrial School, under chapter 308, Laws of 1885, and annually thereafter the whole residue of their funds, from licenses on fertilizers remaining over and not required to conduct the regular work of that department. The Agricultural Experiment and Fertilizer Control Station, already established under the management of the said Board of Agriculture, shall be connected with the said College, and the Board of Agriculture may turn over to the said trustees, in whole or part, for the purposes of the said College, any buildings, lands, laboratories, museums or other property which may be in their possession, as in their judgment may be thought proper. The said Board of Trustees are empowered to receive any donations of property, real or personal, which may be made to the said College of Agriculture and Mechanic Arts, and shall have the power to invest or expend the same for the benefit of said College. The said Board of Agriculture shall have power to accept, on behalf of this State, donations of property, real or personal, and any appropriations which may be made by the Congress of the United States to the several States and Territories for the benefit of Agricultural Experiment Stations, and they shall expend the whole amount so received for the benefit of the aforesaid Agricultural Experiment Station, and in accordance with the act or acts of Congress in relation thereto.

SEC. 7. The use of the three hundred acres of land, more or less, known as the Camp Mangum tract, belonging to the State of North Carolina, and situated one-half mile west of the State Fair Grounds, is hereby given to the said Board of Trustees for the benefit of said College of Agriculture and Mechanic Arts, or of the Experiment Station connected therewith.

SEC. 8. The Board of Trustees shall admit to the benefits of the said College, free of any charge of tuition, upon proper evidence of good moral character and of their inability or the inability of their parents or guardians to pay their tuition, a certain number of youths, to be determined by them, not to be more than one hundred and twenty, and shall apportion the same to the different counties applying, according to their relative number of members in the House of Representatives of North Carolina. The said board are hereby empowered to make the necessary regulations for carrying this into effect and for the admission of other students.

SEC. 9. Every student in this College of Agriculture and Mechanic Arts shall be required to take a course of manual training or labor, together with the other courses of study and exercise, as the board shall direct.

SEC. 10. All laws and sections of laws in conflict with this act are hereby repealed.

SEC. 11. This act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this the 7th day of March, 1887.

THE LAND SCRIP ACT.

The Land Grant Act of the Congress of the United States, passed in 1862, to promote the establishment and provide for the maintenance of agricultural and mechanical colleges in the various States of the Union:

AN ACT DONATING PUBLIC LANDS TO THE SEVERAL STATES AND TERRITORIES WHICH MAY PROVIDE COLLEGES FOR THE BENEFIT OF AGRICULTURE, MECHANIC ARTS AND MILITARY TACTICS, KNOWN AS THE MORRILL ACT.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there be granted to the several States for the purposes herein mentioned an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, that no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted*. That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one-quarter of a section: and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which the State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, that in no case shall any State to which the land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States; but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents or less per acre: *And provided further*, that not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, that no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from the date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied, without diminution whatever, to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*. That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore mentioned provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than .. per centum per annum upon the par value of said stocks, and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 5 of this act), and the interest of which shall be inviolably appropriated by each State which make take and claim the benefit of the act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First—If any portion of the funds invested as provided by the foregoing section, or any portion of the interest thereon, shall by any action or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished, and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms whenever authorized by the respective Legislatures of said States.

Second—No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third—Any State which may take or claim the benefit of the provision of this act shall provide, within five years, at least, not less than one collage as described in the fourth section of this act, or the grant to such State shall cease, and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchase under the State shall be valid.

Fourth—An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State, industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free, by each to all other colleges which may be endowed under the provisions of this act, and one copy to the Secretary of the Interior.

Fifth—When lands shall be selected from those which have been raised to double the minimum in price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth—No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefits of this act.

Seventh—No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its Legislature, within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted.* That the land scrip issued under the provisions of this Act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted.* That the land officers shall receive the same for locating land scrip, issued under the provisions of this act, as is now allowed for the location of military bounty land warrants under existing laws: *Provided,* their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted.* That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip, until the whole amount shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

THE HATCH ACT.

A copy of an Act of the United States, passed March 2d, 1887, known as the "Hatch Act":

AN ACT TO ESTABLISH AGRICULTURAL EXPERIMENT STATIONS IN CONNECTION WITH THE COLLEGES ESTABLISHED IN THE SEVERAL STATES UNDER THE PROVISIONS OF AN ACT APPROVED JULY 2D, 1862, AND OF THE ACTS SUPPLEMENTAL THERETO.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory established, or which may hereafter be established, in accordance with an act approved July 2d 1862, entitled "An Act donating lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station": *Provided,* that in any State or Territory in which two such colleges have been, or may be, so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges. unless the Legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water: the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds: the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals: scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigations or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important, and, in general. to furnish such advice as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the Commissioner of Agriculture, and the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the treasurer or other officer duly appointed by the governing board of said college to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however*, that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act, and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations established by such States; and in case any State shall have established, under provisions of said act of July 2d aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or school, and said States shall have established or shall hereafter establish a separate agricultural college or school which shall have connected therewith an experimental farm or station, the Legislature of such State may apply in whole or in part the appropriation by this act made to such agricultural college or school: and no Legislature shall, by contract expressed or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, that payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of the Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 2, 1887.

TABLE OF STUDIES.

FOR THE FOUR YEARS OF THE COURSE IN AGRICULTURE.

FRESHMAN YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Agriculture or Horticulture	4
English	4	Shop Work	4½
Physics, one-half year	3	Drawing	3
Chemistry, one-half year	3		
History	1		
Horticulture	1		
Agriculture	1		
	15		11½

SOPHOMORE YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Agriculture	2	Agriculture	4
Horticulture	2	Horticulture	4
Mathematics	5	Chemical Laboratory	4
English	3	Blacksmithing, five months	4
Inorganic Chemistry	3		
History	2		
	17		16

JUNIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	4	Agriculture	4
Agriculture	3	Horticulture	4
Horticulture	3	Analytical Chemistry	6
Agricultural Chemistry	3		
English	3		
History	1		
	17		14

SENIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Agriculture	4	Agriculture	4
Horticulture	4	Horticulture	4
Organic Chemistry	3	Analytical Chemistry	8
English	3		
Trigonometry and Surveying— (winter and spring term)	3		
History	1		
	18		16

Thesis.

FOR THE FOUR YEARS OF THE COURSE IN MECHANICS.

FRESHMAN YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Agriculture and Horticulture	4
English	4	Shop Work	4½
Physics, one-half year	3	Drawing	3
Chemistry, one-half year	3		
History	1		
Horticulture	1		
Agriculture	1		
	15		11½

SOPHOMORE YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Shop Work	7½
English	3	Drawing	5
Machinery and Mill Work	3	Chemical Laboratory	2
Building and Materials for one-third year	3		
Inorganic Chemistry	3		
History	2		
	16		14½

JUNIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours*
Mathematics	4	Shop Work	10
English	3	Drawing	5
Graphic Statics, one-third of year,	3		
Surveying, two-thirds of year	3		
Steam and Steam Machinery	4		
History	1		
	15		15

SENIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours*
Mathematics	5	Shop Work	10
Applied Mechanics	3	Drawing	5
Bridges and Roofs	2		
Lectures on Machinery	2		
English	3		
History	1		
	16		15

Thesis.

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CALENDAR.

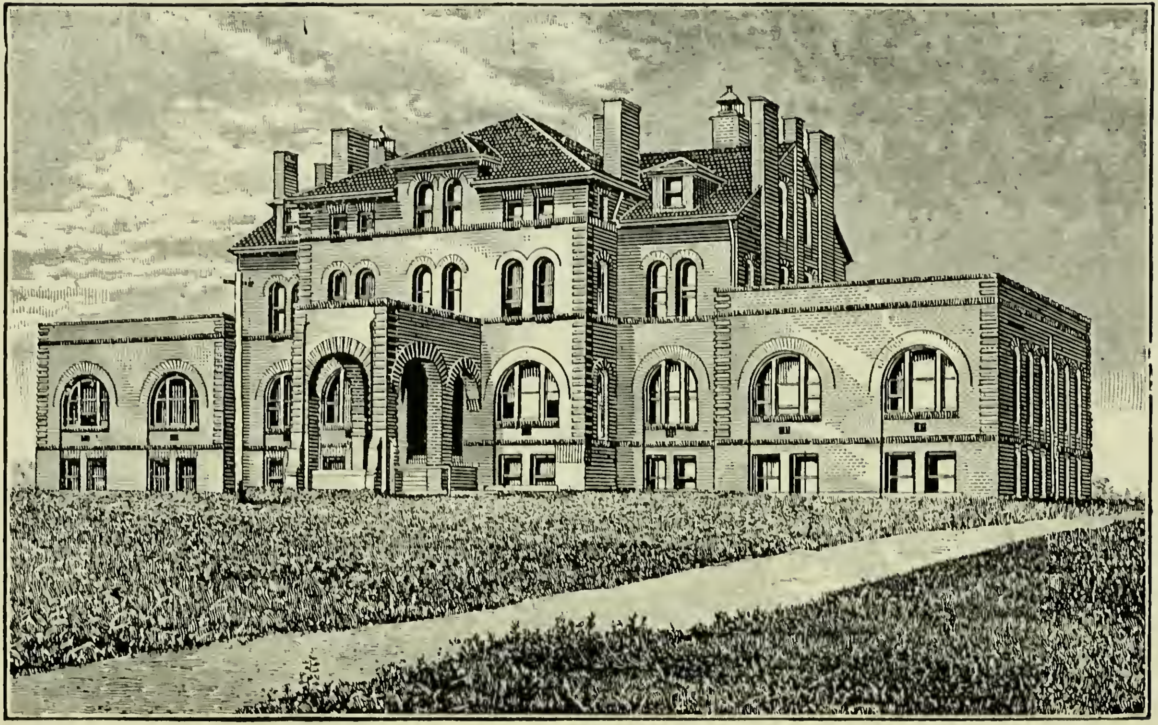
The College session begins on the first Thursday in September.

The First or Fall Term ends at Christmas.

The Second or Winter Term ends March 31st.

The Third or Spring Term ends with the session on the third Wednesday in June.

Commencement Day, June 16th, 1892.



NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

THIRD ANNUAL CATALOGUE

OF THE

NORTH CAROLINA

COLLEGE OF AGRICULTURE & MECHANIC ARTS,

RALEIGH, N. C.

APRIL, 1892.

Fall Term Begins on September 1, 1892.

RALEIGH:
EDWARDS & BROUGHTON, PRINTERS AND BINDERS
1892.

TRUSTEES OF THE COLLEGE.

1. †W. S. Primrose, President of the Board.	Ex. Com.	Raleigh, N. C.
2. *W. F. Green,		Franklinton, N. C.
3. †S. B. Alexander,		Charlotte, N. C.
4. †Henry E. Fries,		Salem, N. C.
5. †N. B. Broughton,		Raleigh, N. C.
6. *A. Leazar,		Mooresville, N. C.
7. *J. B. Coffield		Everett's, N. C.
8. *W. R. Williams		Falkland, N. C.
9. *C. D. Smith		Franklin, N. C.
10. *S. L. Patterson		Yadkin Valley, N. C.
11. *W. R. Capehart		Avoca, N. C.
12. *J. F. Payne		Alma, N. C.
13. *J. S. Murrow		Centre, N. C.
14. *W. E. Stevens		Clinton, N. C.
15. †Elias Carr		Old Sparta, N. C.

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*
Elias Carr.
A Leazar.

Note.—The names marked * are members of the Board of Agriculture, and are appointed by the Legislature. Names marked † are appointed by the Governor and confirmed by the Senate.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
President.

JOS. R. CHAMBERLAIN, B. S.,
Professor of Agriculture.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry.

D. H. HILL, A. M.,
Professor of English.

J. H. KINEALY, D. E.,
Professor of Mechanics and Applied Mathematics.

R. E. L. YATES, A. M.,
Adjunct Professor of Mathematics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

CHARLES M. PRITCHETT, B. S.,
Instructor in Mechanics.

CHARLES B. PARK,
Instructor in Practical Mechanics.

HUGH L. MILLER, PH. B.,
Instructor in Chemistry.

B. S. SKINNER,
Assistant in Agricultural and Horticultural Practice.

PROF. WITHERS, *Secretary of the Faculty.*
PROF. HILL, *Bursar.*
MR. SKINNER, *Superintendent of the Farm.*
MR. J. N. HUBBARD, *Steward.*
MRS. SUE C. CARROLL, *Matron.*
J. B. DUNN, M. D., *Physician.*

OFFICERS

OF THE

North Carolina Experiment Station

AND

STATE WEATHER SERVICE.

H. B. Battle. Ph. D	Director and State Chemist.
F. E. Emery. B. S	Agriculturist.
Gerald McCarthy. B. S	Botanist and Acting Entomologist.
W. F. Massey, C. E	Horticulturist.
C. F. von Herrmann (U. S. Weather Bureau)	Meteorologist.
B. W. Kilgore, B. S	Assistant Chemist.
F. B. Carpenter, B. S	Assistant Chemist.
T. L. Blalock, B. S	Assistant Chemist.
J. S. Meng, B. S	Assistant Chemist.
Alexander Rhodes	Assistant Horticulturist.
Roscoe Nunn (U. S. Weather Bureau)	Assistant Meteorologist.
J. L. Cuninggim, A. B	Secretary.

STATION COUNCIL.

Alexander Q. Holladay, *Chairman.*
H. B. Battle, Ph. D.
W. S. Primrose.
Elias Carr.
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*To be filled.

STUDENTS.

JUNIOR CLASS.*

Name.	*County.*	*Admitted.*
ALLEN, ROBERT WILSON	Anson	1889.
ASBURY, SAMUEL ERSON	Gaston	1889.
BONITZ, HENRY EMIL	New Hanover	1889.
FLOYD, FRANK FULLER	Granville	1889.
FRANCKS, CHARLES DUFFY	Onslow	1889.
GIBBON, EDWARD MOORE	Mecklenburg	1889.
GRAY, GEORGE PENDER	Edgecombe	1889.
HOLLADAY, CHARLES BOLLING	Wake	1889.
LYTCH, WILLIAM MCNEILL	Richmond	1889.
MATHEWS, WALTER JEROME	Buncombe	1889.
MCKOY, JAMES WILLIAM	Buncombe	1889.
MEACHAM, FRANK THEOPHILUS	Wake	1889.
SAWYER, FRANK MCMURRAY	Duplin	1889.
SELLARS, CARL DEWITT	Alamance	1889.
SEYMORE, CHARLES EDGAR	Franklin	1889.
THORNE, BUXTON WILLIAMS	Halifax	1889.
TURNER, WILLIAM HARRISON	Montgomery	1889.
WILLIAMS, CHARLES BURGESS	Camden	1889.
YARBROUGH, LEWIS THOMPSON	Caswell	1889.
YOUNG, SAMUEL MARVIN	Wake	1889.

SOPHOMORE CLASS.

Name.	*County.*	*Admitted.*
ASHE, THOMAS MARTIN	Wake	1890.
BEST, WILLIAM ROBERT	Wilson	1890.
BOND, LEWIS	Bertie	1889.
BOSTICK, ORLANDO CEPHUS	Cleveland	1890.
BOYD, PASCHAL STRONG	Iredell	1890.
BROADHURST, JACK JOHNSON	Wayne	1890.
BROUGHTON, LORENZO JOSEPH	Union	1889.
CARROLL, JUDSON CLIFFORD	Wake	1890.
CORPENING, CHARLES EDGAR	Caldwell	1890.
COX, DAVID, JR	Perquimans	1890.
DOWD, CLEMENT, JR	Mecklenburg	1890.
FAISON, SHERWOOD BADGER	Wake	1890.
HARGROVE, PEYTON CLIFFORD	Edgecombe	1890.

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*The College has been in operation only three years, hence has no Senior Class.

Name.	*County.*	*Admitted.*
Harris, John Robinson	Mecklenburg	1890.
Hinsdale, Samuel Johnston	Wake	1889.
Howle, Fred. Kemp	Wake	1890.
Kirby, George Hughes	Wayne	1890.
Murphy, William Faison	Sampson	1890.
Murrill, Edward Williams, Jr	Onslow	1890.
Patterson, Robert Donnell	Orange	1890.
Pearson, Charles	Polk	1890.
Pigford, Thomas	Sampson	1890.
Powell, Walter Junius	Vance	1890.
Pullen, Charles Garrett	Halifax	1890.
Rogers, Zebbie George	Person	1891.
Saunders, John Hyer	Pitt	1891.
Spencer, James Andrew	Franklin	1890.
Stewart, Hampton Smith	Alabama (State)	1891.
Walton, Benjamin Franklin	Wake	1890.
Wetmore, Theophilus Broadfoot	Rowan	1890.
Wharton, Rufus Watson	Beaufort	1890.
Williams, Robert Murphy	Sampson	1890.
Wilson, John McCamy	Mecklenburg	1890.
Worthington, Samuel Wheeler	Nash	1890.

FRESHMAN CLASS.

Name.	*County.*	*Admitted.*
Anthony, Julius Alexander	Catawba	1891.
Bailey, Edmunds Lamar	Wake	1890.
Barbee, Frederic George	Guilford	1891.
Bizzell, Jamie Adrian	Cumberland	1891.
Blount, John Isam	Sampson	1891.
Brawley, James Washington	Iredell	1891.
Brawley, William Burette	Iredell	1891.
Broughton, John Fletcher	Wake	1891.
Bullock, George Tarry	Vance	1891.
Bullock, Walter Austin	Vance	1891.
Capehart, Cad	Bertie	1891.
Carter, Charles Eliotte	Gates	1891.
Castlebury, Frank	Wake	1891.
Corbett, George Washington, Jr.	Pender	1891.
Cowper, Lyman Atkinson	Gates	1891.
Darden, Edwin Speight	Greene	1891.
Davis, William Kerney	Franklin	1891.
Dey, Joseph Charles	Currituck	1891.

Name.	*County.*	*Admitted.*
DICKIE, DAVID HENRY	Vance	1891.
ENNETT, LEE BORDEN	Carteret	1891.
FAUST, ISAAC HENRY	Randolph	1891.
GOLD, CHARLES WYLLIS	Wilson	1891.
HAMILTON, CHARLEY EATON	Edgecombe	1891.
HARRISS, WILLIE HENRY	Warren	1891.
HAY, OSCAR PAYNE	Wake	1891.
HIGHSMITH, JERE EUSTUS	Sampson	1891.
HUGHES, CHRISTOPHER MILLER	Wake	1891.
HUNTER, MALCOLM BEALL	Mecklenburg	1891.
LAMBETH, EUGENE EDGAR	Chatham	1891.
LAUGHINGHOUSE, JOSEPH JOHN, JR	Pitt	1891.
LUCAS, DAVID MARTIN	Beaufort	1891.
MATHESON, WILLIAM LAFAYETTE	Alexander	1891.
MCEACHIN, ALBERT DOZIER	Richmond	1891.
MCKEOWN, SAMUEL CHRISTOPHER	South Carolina (State)	1891.
MCKETHAN, WILLIE MCLAURIN	Cumberland	1891.
NEWBERN, HORATIO DRINKWATER	Currituck	1891.
ORLEMAN, WALTER FLORENZIE	New York (State)	1891.
PATTERSON, MANN CABE	Orange	1890.
PENNY, EMIL OTIS	Wake	1891.
PIERCE, JAY	Columbus	1891.
PRINCE, ABRAM HINMAN	Vance	1891.
PRIVOTT, VICTOR VASHTI	Chowan	1891.
REED, MAURICE FRANKLIN	Buncombe	1891.
SANDERS, LUCIEN HENRY	Johnston	1891.
SIMMONS, WILLIAM	Onslow	1891.
SINCLAIR, JAMES	New Hanover	1891.
SPEIGHT, HENRY LEWIS	Edgecombe	1891.
SPURGEON, CHARLES EDGAR	Davidson	1891.
STAFFORD, FRANK CALDWELL	Cabarrus	1891.
WEST, WILLIAM SHAW	Wake	1891.
WILLIAMS, GEORGE DANIEL	Gates	1891.
WILSON, SAMUEL ALEXANDER	Mecklenburg	1891.
WISWALL, HOWARD, JR	Beaufort	1891.
WOOTEN, ABNER RICHARD	Greene	1891.
YARBROUGH, CHARLES GARRETT	Caswell	1891.
YELVERTON, WALTER JOYNER	Wayne	1891.

REPRESENTATION BY COUNTIES.

Alamance	1
Alexander	1
Anson	1
Beaufort	3
Bertie	2
Buncombe	3
Cabarrus	1
Caldwell	1
Camden	1
Carteret	1
Caswell	2
Catawba	1
Chatham	1
Chowan	1
Cleveland	1
Columbus	1
Cumberland	2
Currituck	2
Davidson	1
Duplin	1
Edgecombe	4
Franklin	3
Gaston	1
Gates	3
Granville	1
Greene	2
Guilford	1
Halifax	2
Iredell	3
Johnston	1
Mecklenburg	6
Montgomery	1
Nash	1
New Hanover	2
Onslow	3
Orange	2
Pender	1
Perquimans	1
Person	1
Pitt	2
Polk	1
Randolph	1
Richmond	2
Rowan	1
Sampson	5
Union	1
Vance	5
Wake	16
Warren	1
Wayne	3
Wilson	2
	107
Alabama	1
New York	1
South Carolina	1
	110

SUMMARY BY CLASSES.

Juniors	20
Sophomores	34
Freshmen	56
Total	110

A SHORT HISTORY OF THE COLLEGE.

The Watauga Club, of Raleigh, in January, 1885, after having given the subject considerable thought, memorialized the Legislature as follows, viz.:

"1st. To establish an industrial school in North Carolina, a training place in the wealth-producing arts and sciences.

"2d. To be located at Raleigh in connection with the State Agricultural Department.

"3d. To erect a suitable building and provide proper equipment.

"4th. That the instruction be in woodwork, mining, metallurgy and practical agriculture.

"5th. That necessary shops and laboratories be erected adjoining the buildings of the Agricultural Department, and that an experimental farm in the vicinity of Raleigh be equipped.

"6th. That an industrial school is of prime importance and greatly in demand."

The committee on behalf of the Club also furnished such information as they had been able to secure regarding the scope and utility of such an institution.

Several bills were introduced in that Legislature, the one drawn by Hon. A. Leazar becoming a law on March 7th, 1885, by a vote of 51 to 11 in the House and 23 to 9 in the Senate.

The act provides, among other features, as follows:

"1st. That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and when an adequate donation should be made by any city or town, there the school should be located, giving the place the preference which offered the greatest inducements.

"2d. That the school should be under joint control of the Board of Agriculture and directors from such town or city.

"3d. That the instruction should be in woodwork, mining, metallurgy, practical agriculture, and such other branches of industrial education as may be deemed expedient.

"4th. That the Board of Agriculture should be authorized to apply annually $5,000 of the surplus funds of their department to the establishment and maintenance of said school."

After successive advertisements and many meetings, in which the subject was fully discussed, the Board of Agriculture accepted an offer made by the city of Raleigh, and appropriated the sum of $5,000 for that year, 1886, pursuant to the terms of the act.

Before this result was attained, the earnest advocates of the measure met in mass-meetings on several occasions, at which committees were appointed to prepare full information and statistics. Prominent citizens of the State from various sections manifested a lively interest in the scheme, and matters were assuming a definite shape for the commencement of the school, as shown by the payment of the amount subscribed by the city of Raleigh, the purchase of a site, etc., when certain events gave a different and broader scope to the work designed to be accomplished.

Two large meetings of the farmers of North Carolina were held in Raleigh, respectively on the 18th and 26th of January, 1887. The first of these meetings, among other things, resolved that the farmers ought to have an agricultural college; and further, that the interest on the land scrip fund should be given for a part of its support. The second meeting, with representatives from forty counties, reiterated the resolution referred to as passed by the convention of January 18th, and also considered favorably a proposal of the city of Raleigh to combine the industrial school with the desired agricultural college, offering the funds already in hand, with whatever the Legislature might provide, for such an institution.

After an exciting discussion, a bill for such Agricultural and Mechanical College became a law in the Legislature of 1887, by a vote of 68 to 19 in the House of Representatives and 29 to 13 in the Senate.

Thus the scheme for the North Carolina College of Agriculture and Mechanic Arts was inaugurated, and the State took a most important and progressive step in behalf of agriculture and mechanical development.

OBJECT AND AIM OF THE COLLEGE.

The mission of the North Carolina College of Agriculture and Mechanic Arts can be gathered from a perusal of sections or synopsis of the State law and the Acts of Congress quoted in this pamphlet. But it will not be amiss to give here a brief statement of what it is designed to accomplish.

Its general purpose is so to teach the principles and applications of the sciences, illustrating sound theory by daily practice, as to make out of its students useful and successful men, instead of mere intelligent drones.

"One of the special objects of the college is to foster a higher appreciation of the value and dignity of intelligent labor and the worth and respectability of laboring men. A boy who sees nothing in manual labor but mere brute force, despises both the labor and the laborer. With the acquisition of skill in himself, comes the ability and willingness to recognize skill in his fellows. When once he appreciates skill in handicraft, he regards the workman with sympathy and respect."

The Jews in scriptural times taught each boy a trade, in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time, in this and other countries, have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such instructions as we are now commencing is calculated to work out such economic results.

In an Agricultural and Mechanical College, the student is taught to know that work is honorable; and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. The labor is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the technical education which will be given by the Agricultural and Mechanical College and the established colleges and the University of the State. Taking our College as one department of learning, and the above-named institutions as another, their spheres are widely different. and they should be of practical benefit each to the other and both to the commonwealth.

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction; in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle-raising and the production of dairy products; in its trucking interests, fruit and small fruits; in its ores and minerals; its lumber and hard woods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, skill and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State as far as it can reach them in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an Agricultural and Mechanical College, in which the very best methods and results can be studied and worked out practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock-raisers, dairymen—men who will be interested in their work, and who will make their work profitable.

The State also has need of good mechanics, carpenters, draughtsmen, contractors, manufacturers, architects, civil and mechanical engineers, and the College will help to make them.

In conclusion, while the College will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure, of the members of the Faculty of the College to take an active part in farmers' institutes, which are accomplishing so much of good in many States in the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, etc. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, etc.

COURSES OF INSTRUCTION.

The two general courses of study offered in this Institution are in Agriculture and in Mechanics.

In the Freshman year the work for the students in both courses is the same, and consists of Mathematics, English, Physics, Chemistry, History, Horticulture and Agriculture in the recitation-room, and practice work in the field, greenhouse, carpentershop and drawing-room.

While it is true that at the beginning of the Sophomore year the two courses divide and the student selects one or the other of the two, yet some studies are common to both through the entire course. In the Sophomore year both have Chemistry, English, Mathematics and History in common, while the Juniors are together in all these but Chemistry, which is not taken by the Mechanical students after the Sophomore year. The Agricultural Seniors do not have Mathematics, but the English and History is continued by all through the Senior year. With the higher classes, therefore, more and more time is devoted to the technical part of the work.

THE TECHNICAL WORK OF THE AGRICULTURAL COURSE.

This work occupies four hours per week of the recitation time of the Sophomore class, eight hours of the Juniors, and eleven of the Seniors, and all the practice work of these years. In the Senior year the student will be furnished special facilities for pursuing original work in preparing a graduating thesis which may be selected from original work in either Agriculture, Horticulture, Botany, or Agricultural Chemistry.

We endeavor to keep in view the fact that the course is not intended as a training school for farm laborers, but for fitting young men for intelligent work in Agriculture, either on the practical side in directing the great army of uneducated muscle in the field or greenhouse, or on the more scientific, but none the less valuable, side as workers in the laboratories of Agricultural Chemistry or Botany.

The manual labor is performed during the practice hours, and is only such as is considered necessary and instructive, and does not consist of mere drudgery, of which most of the students know enough already before their admission. While taught that no labor is beneath the dignity of a thorough farmer, when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American Agriculture, and thus send them out as *leaders in improvements*, instead of mere followers in ruts of other men's making.

THE TECHNICAL WORK OF THE COURSE IN MECHANICS.

This work occupies three hours per week of the recitation time of the Sophomore Class, seven hours of the Juniors and eleven of the Seniors, and all the practice work of these years.

This is not a trade school, and it is of course not expected that our students shall necessarily adopt a trade, but if any should desire to do so, the training given here in the principles underlying all mechanical trades, as well as in their application, will make smooth the way and give the right start to all students who can remain but one or two years, preferring then to take up a trade rather than to work on to the graduating degree, which will give them position as Civil or Mechanical Engineers.

An examination of the work for each year, as shown in the table at the end, will give an accurate idea of the qualifications of each student at any given point in the course, whether his purpose may be to adopt a trade, or only to direct with intelligent skill operations of his own business, or to seek employment in the highest branches of engineering.

The graduating thesis shall have for its subject some part of the work in Mechanics, to be approved by the Professor of Mechanics and Applied Mathematics.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. CHAMBERLAIN.
ASSIST. PROF. EMERY.

The aim of this department is to make its pupils practical farmers, as well as thorough students. In order to accomplish this end, practice and theory must go hand in hand. Science is the foundation on which improved agriculture is based.

In the class-room we must study the Science of Chemistry, Physics, Botany, Zoology, Entomology, Physiology, etc. In the field we must study the laws of Nature, learn to observe and become familiar with the little details incident to agricultural pursuits, and apply our knowledge in agricultural practice.

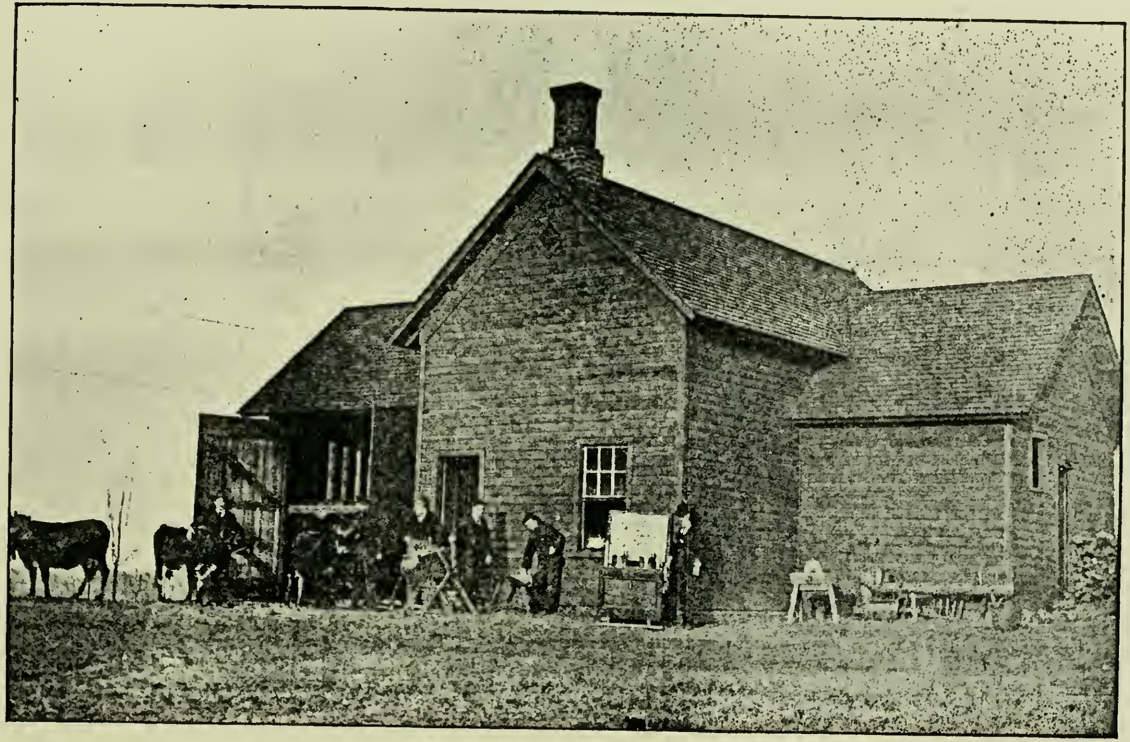
All the students in this course will be required to work in the farm workshops, in the barns and in the fields, under the direct supervision of the Professors of Agriculture.

The field and shop-work supplement the lectures and recitations in such a way that the application and value of the principles taught may be thoroughly understood and remembered by the students. As much time will be given to practical work as circumstances will permit.

FRESHMAN YEAR.

All students entering college will, during the Freshman year, give one hour a week to recitations or lectures, and two hours a week to practical work in the field.

Since many students who enter here can only remain one year, the course for the Freshman will be of a non-technical nature and will cover subjects easily comprehended by all. The class-room work will consist of forty-four lectures on the following subjects:



BARN AT EXPERIMENT STATION.

SPRING TERM.—12 LECTURES.

1. Horses.—Short history.
2. Principal breeds.
3. Thorough-bred and standard-bred horses.
4. Coach and hackney horses.
5. Draft horses.
6. Breeding; like begets like; spontaneous variation.
7. Atavism.—How stock is improved.
8. Importance of pure-bred sires.
9. Herd books, and how to use them.
10. What the farmer in North Carolina should raise.
11. General system for adoption.
12. Review, and general remarks.

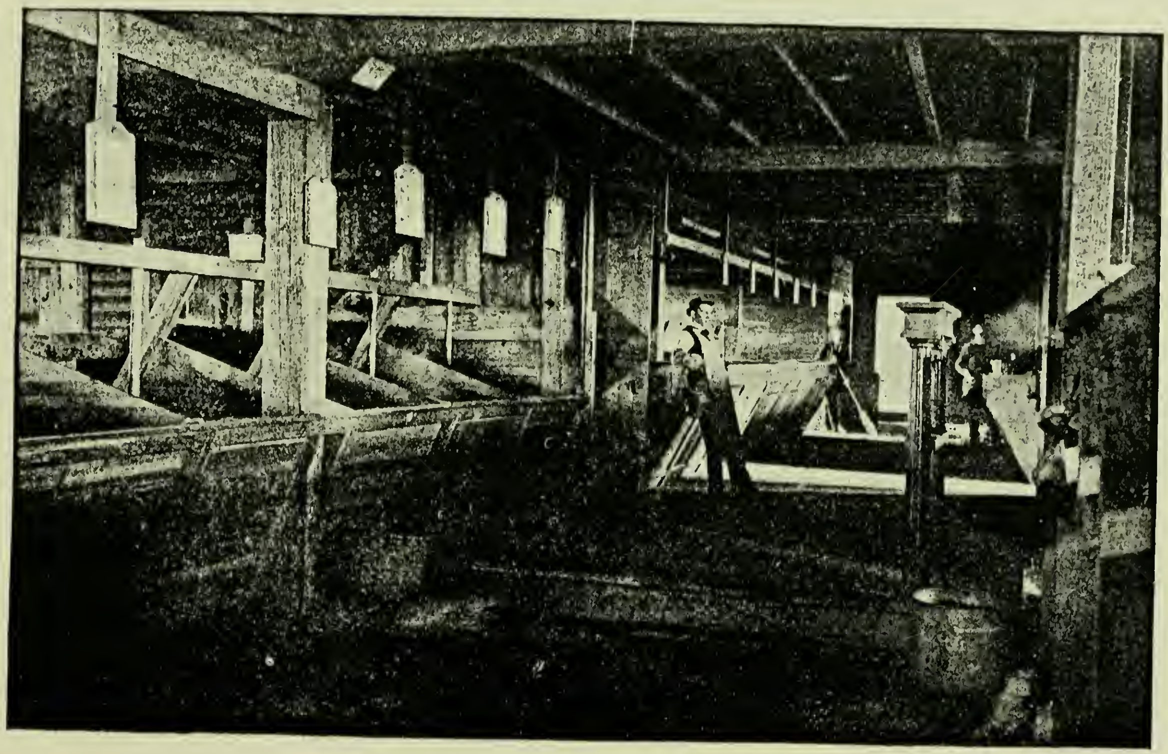
SOPHOMORE YEAR.

During the Sophomore year, students in the course in Agriculture will devote six hours a week to the study of Comparative Anatomy, Physiology and Hygiene of farm animals. Special study will be given the digestive tract, and the food required by different kinds of animals; the general laws of nutrition; the chemical composition of feeding-stuffs, with reference both to the feeding and manurial values; the feeding of farm animals; the effect of dry or succulent and concentrated or bulky foods; feeding rations for fattening, work, and dairy animals; the general laws of heredity, and principles of stock-breeding.

Blacksmithing, five months of the year, four hours per week.

JUNIOR YEAR.

Lectures and practical work seven hours a week in farm buildings, fences, implements and permanent improvements. The study of domestic animals, history and description of various breeds of horses, cattle, sheep and swine, with their



CATTLE STALLS AND TABLETS FOR RECORD OF FEED.

merits and demerits. General notes on care of stock and selection for specific purposes, whether for work, dairy or fattening, with special reference to their breeding and development. Dairy practice, the construction of dairy buildings and management of dairy machinery and equipment, the latest and most approved methods of conducting a dairy business; effect of food, exposure and treatment of cows on the quantity and quality of milk, utilization of the products of the dairy, packing and shipping of dairy products, and study of the peculiarities of markets.

SENIOR YEAR.

Lectures and practical work seven hours a week in farm surveying and leveling, plotting results and making profiles for the establishment of farm drainage, irrigation, road and bridge making; farm manures, their composition and value, best methods of application; chemical fertilizers, with their adaptation to certain soils and crops; soil renovation; planting, cultivating and harvesting of farm crops; various questions relating to farm accounts, buying and selling; general farm economy. Thesis.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

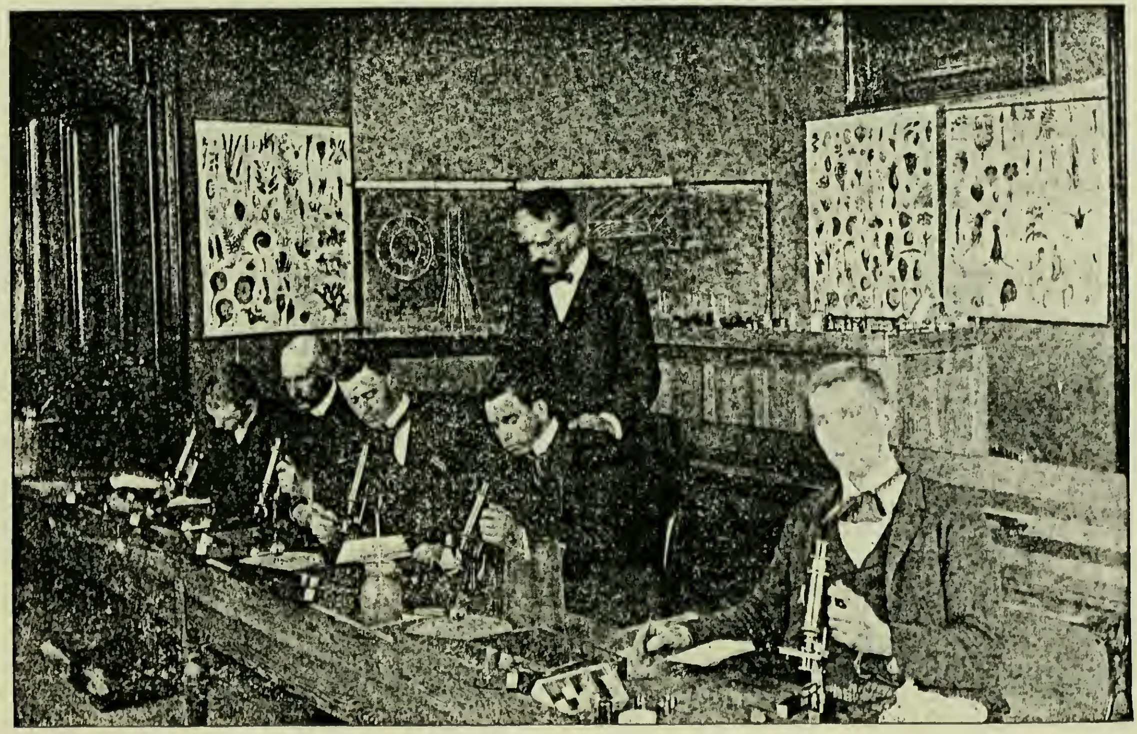
PROF. MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but systematic Botany will also receive due attention. It will not be taught by the mere memorizing of dry definitions, but by a practical study of the characteristics of plants upon which classification is founded. The student will prepare a series of progressive schedules of the characters of all parts of plants and flowers from a study of the plants themselves, thus training his powers of observation so that when he comes to the identification of plants for herbarium preservation, he will have no temptation to make "short cuts," as though the name was the only object sought.

The effort will be made to include in the first two years of the course those branches most essential to the Market Gardener, Fruit Grower and Florist, so as to give those students who do not remain longer with us a short practical course. The subsequent years will be devoted to advanced work in Cryptogamic Botany, Entomology, etc.

Those who complete the whole course will receive instruction in all the branches needed by a Professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road working, the construction of horticultural buildings and forest improvement.

The new greenhouse at the College and the greenhouse and glass grapery at the Experiment Station, where exotic grapes are grown under glass, furnish means for practical study and illustration.



HORTICULTURAL LABORATORY.

COURSE OF STUDY.

FRESHMAN YEAR.

FALL TERM.

Lectures on the Elementary Combinations in Soils, Water and Air. Geological Origin of Soils. Cultivable Soils, their mechanical characters and improvement. How Plants Grow. Practical work in College Garden.

WINTER TERM.

Lectures on Garden Vegetables, with special reference to Truck Gardening in the South. Practice in Greenhouse and Frames.

SPRING TERM.

Lectures and practical study of Plant Structure from living forms collected by the student. Study of Floral Forms and Preparation of Schedules of Plant Organization. Practical work in Garden.

SOPHOMORE YEAR.

FALL TERM.

Lectures on the Application of the Study of Vegetable Life and Structure to the Culture of Fruit Trees in Nursery and Orchard. Practice in Greenhouse Propagation and Management. Pruning in Orchard and Vineyard.

WINTER TERM.

Advanced work in Structural Botany with Text-book and Microscopic Illustrations as needed. Practice in Greenhouse work and Grafting.

SPRING TERM.

Entomology begun with Text-book and Lectures. Laboratory work in Classification of Plants and Insects. Formation of Herbaria and Collections. Special study of Grasses.

JUNIOR YEAR.

FALL TERM.

Physiological and Cryptogamic Botany. Laboratory work in Vegetable Histology and study of Low Forms of Plant Life with Compound Microscope. Preparation and Mounting of Microscopic Objects.

WINTER TERM.

Lectures on the Application of the Principles of Physiological Botany to Forestry. Study of Woods and Timbers and Forest Products. Laboratory study of Cryptogams.

SPRING TERM.

Forestry continued. Classification of Cryptogams. Collection of Cryptogamic Plants.

SENIOR YEAR

FALL TERM.

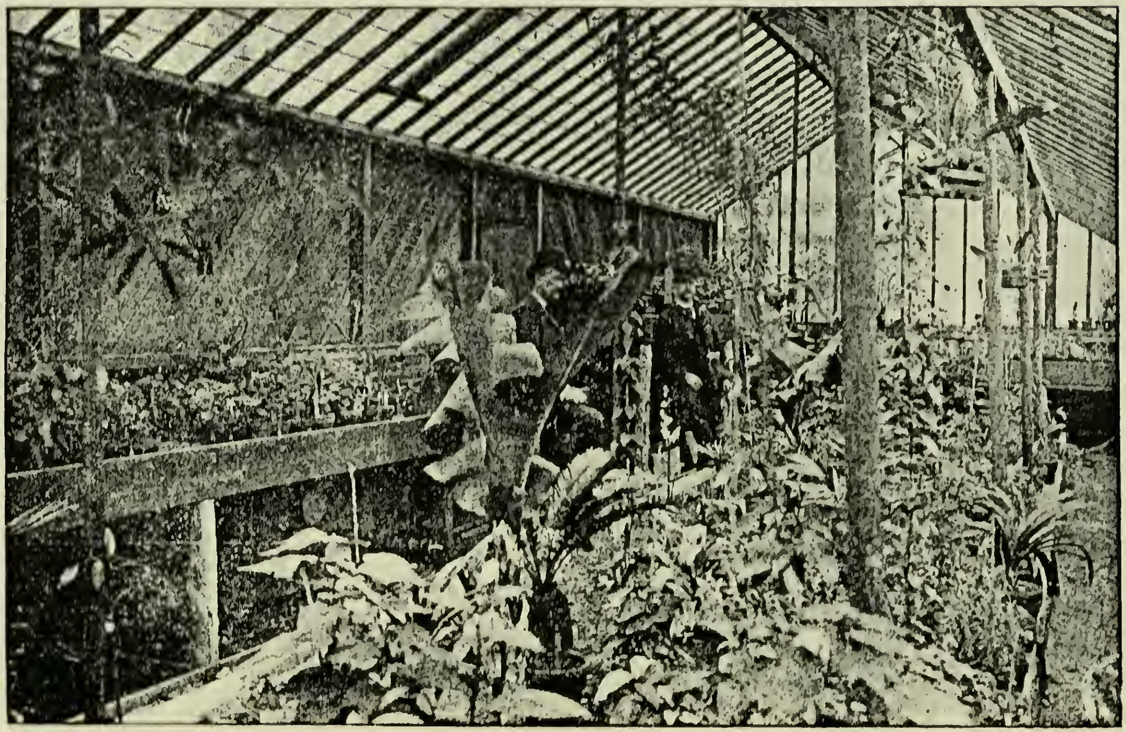
Lectures on Landscape Art, Road-making and Horticultural Construction. Farm Surveying and Practice in use of Instruments.

WINTER TERM.

Lectures on Exotic Horticulture and Forcing of Fruits and Flowers under glass. Laboratory study of Parasitic Fungi on Cultivated Plants.

SPRING TERM.

Lectures on the Geological History of Plants, Origin of Cultivated Plants and Floral Structures. Laboratory study of Fungi continued.



GREENHOUSE FOR CLASS IN HORTICULTURE.

THESIS.

Students making their Thesis in this department must select the subject early in the year, with the advice of the Professor, and will be given every opportunity for doing good original work.

In the Junior and Senior years each student will be furnished with a compound microscope and must make a deposit, at the beginning of each year, of three dollars for materials and re-agents used, any unexpended balance of which will be refunded at end of the year. Instruments furnished by the College, but losses and breakage must be made good by student..

In the Freshman and Sophomore years a deposit of seventy-five cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession will be given special opportunities in the Junior and Senior years to become experts in Greenhouse work and Propagation. The College and Station Greenhouses and Exotic Grapery give particular advantages for this.

DEPARTMENT OF PURE AND AGRICULTURAL CHEMISTRY.

PROF. WITHERS.

MR. MILLER.

This department occupies all the north-east wing of the first floor of the Main Building, and consists of five rooms, as follows: General Laboratory, Lecture Room, Store Room, Private Laboratory, and Office.

The Chemical Laboratory is 37 by 19 feet, and is well lighted. It is supplied with fume closets, evaporating baths, drying chamber, blast lamp, and extra tile-covered tables, and has accommodations for fifty-six students. twenty-eight of whom may work simultaneously. The analytical tables are of yellow heart-pine with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus, and has three feet of working space. Each working space is provided with gas, water, a sink, and shelves supplied with re-agents.

The Chemical Library contains a carefully selected list of standard text and reference books—including those used by the department—and also the current numbers of the American Chemical Journal, Journal of Analytical and Applied Chemistry, Journal of the Society of Chemical Industry, Journal of the Chemical Society (London), Journal für Landwirthschaft, Fresenius' Zeitschrift für Analytische Chemie, Berichte der Deutschen Chemischen Gessellschaft, and others. This library has been placed in one of the rooms of the department adjacent to the Laboratory, and the student is encouraged to make free use of it.

The Chemical Museum contains specimens illustrating the work in pure and Agricultural Chemistry. It will be added to from time to time.

Instruction in this department begins with the third term of the Freshman year and continues through the Sophomore year for all students. It occupies a portion of the whole course of the agricultural students.

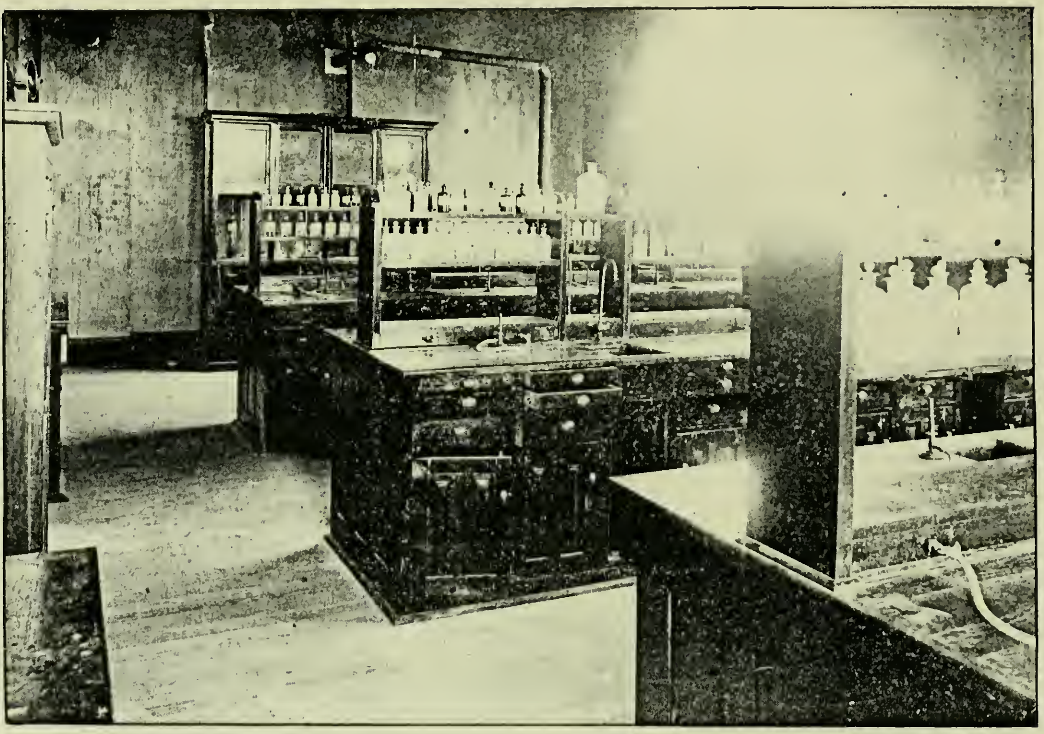
The following courses are offered:

I. INTRODUCTORY CHEMISTRY—FRESHMAN CLASS.

Recitations three hours weekly for second half year.

Some of the typical elements and their more common compounds are studied, with some of the simpler principles underlying the science. Full experiments are performed in the class-room. This course is aimed to give the student the chemical knowledge needed for beginning the work of other departments, and to prepare him for those courses which follow in this. For those students who are unable to pursue their college course beyond this point, it will be an aid for private reading and study of agricultural literature.

Text-book: Williams' Introduction to Chemical Science.



CHEMICAL LABORATORY

II. INORGANIC CHEMISTRY—SOPHOMORE CLASS.

Lectures and Recitations three hours weekly—Laboratory Work two hours weekly.

This work is both descriptive and theoretical, instruction being given by lectures, recitations, and supplemented by experiments performed in the laboratory by the student. The common elements and their principal compounds are studied. Much stress is laid on the writing of equations of the solution of chemical problems, and class-room experiments.

As the work proceeds, the student is encouraged to make free use of the reference books in the Chemical Library.

In the laboratory the student records the results of his experiments in a note-book, for daily examination and correction.

Text-book: Remsen's Chemistry (Briefer Course).

Reference books: Roscoe and Schorlemmer, Wurtz, Richter.

III. AGRICULTURAL CHEMISTRY—JUNIOR CLASS.

Lectures and Recitations three times per week.

The work follows closely Mayer's Lehrbuch der Agrikulturchemie.

Attention is given to a consideration of—

The atmosphere as a plant feeder; the plant—its mineral and organic ingredients and their functions; the soil—its composition and origin, its physical and chemical properties, its agency as a storage reservoir and as a plant feeder; effect of drainage, tillage, burning and fallowing; amendments; fertilizers; farm manures; green manuring.

Foddering substances—their composition and valuation; ensilage.

Animal Chemistry; stock feeding; chemistry of butter, cheese and milk, etc., etc.

Reference books: Storer's Agriculture; Johnson's How Crops Grow, and How Crops Feed; Johnston and Cameron's Agricultural Chemistry.

IV. QUALITATIVE ANALYSIS—JUNIOR CLASS.

Laboratory Work six hours per week.

The student is brought to see the natural division of the elements into general groups. He is familiarized with general and individual re-actions, and taught by these to identify the presence of elements in unknown compounds. Some time is given each week to the writing of equations.

Text-book: Caldwell's Chemical Analysis (Qualitative portion.)

Reference books: Fresenius, Prescott and Johnson.

V. QUANTITATIVE ANALYSIS—SENIOR CLASS.

Laboratory work eight hours weekly.

The introductory work in this course consists of the gravimetric and volumetric estimation of iron, assay of limonite, estimations of sulphuric anhydride, acidmetry and alkalimetry, estimation of lead, of phosphoric anhydride and calcium. After this the student is given practice in the analysis of marls, mucks, feeding-stuffs, water, fertilizers, soils, and such other work as the Agricultural Chemist is usually called upon to perform.

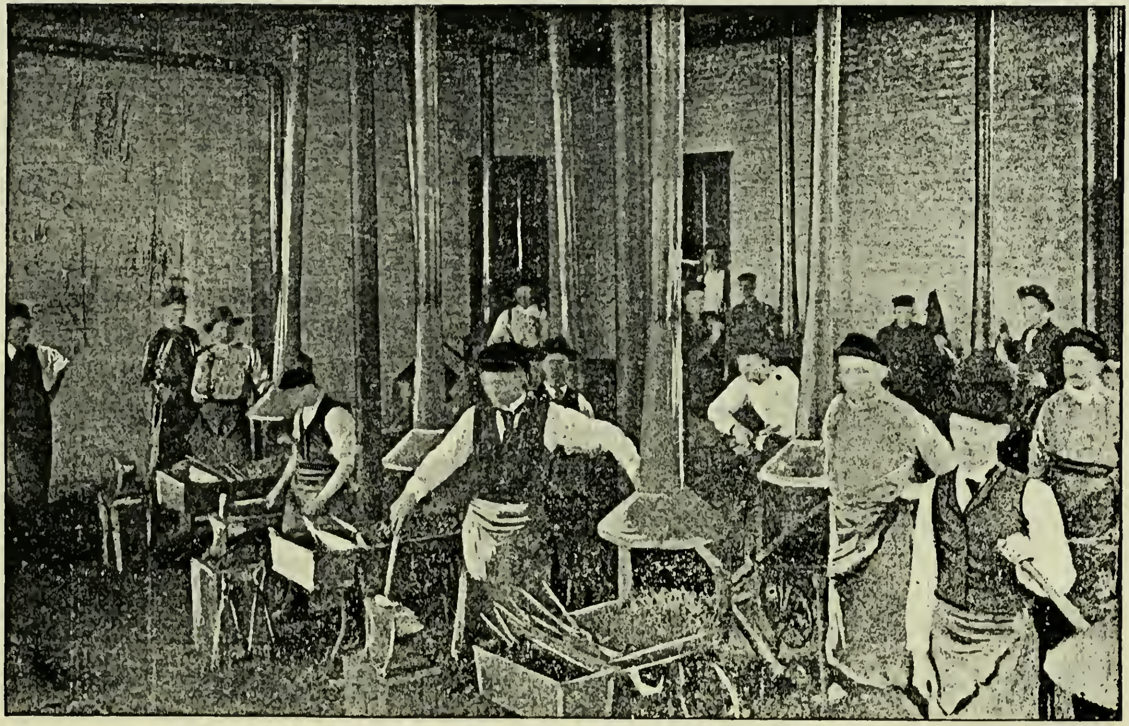
Text-books: For the introductory work Caldwell's Chemical Analysis; quantitative portion.

Reference books: Fresenius, Sutton's Volumetric Analysis, Cairns, Caldwell's Agricultural Chemical Analysis, and Methods of the Association of Official Agricultural Chemists.

VI. ORGANIC AND THEORETICAL CHEMISTRY—SENIOR CLASS.

Lectures and Recitations three hours per week.

Students who can do so will, in addition to the recitation, devote about six hours per week to the preparation of organic compounds, supplementing the text-book by those of Levy Fischer and Cohen.



MECHANICAL CLASS AT FORGE WORK.

Text-books: Remsen's Organic Chemistry and Remsen's Theoretical Chemistry.

Reference books: Richter, Roscoe and Schorlemmer, Muir's Principles of Chemistry, Lothar Meyer's Modern Theories of Chemistry.

DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

PROF. KINEALY.

MR. PRITCHETT. MR. PARK.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering. In the class-room work of this department it will be necessary to use text-books to a great extent, but they will always be supplemented by explanations and lectures.

The course, as laid out, is intended to give to those who complete it such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments, and in the management of machinery, as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose. No specialty, as yet, is made either of mechanical engineering, civil engineering or architecture; but those fundamental principles which underlie, and form the bases of all, are taught to the student.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood. His greater or less degree of skill will, of course, depend largely upon his natural ability.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Mechanics.—This includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys, in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

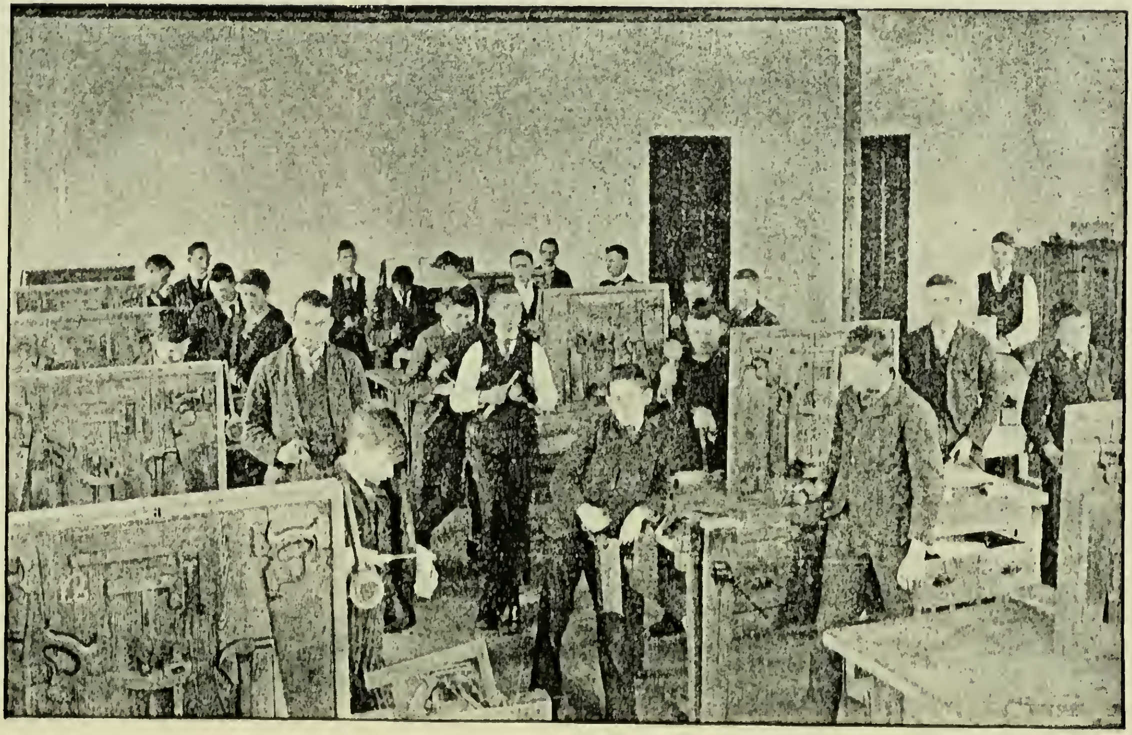
As far as possible, this subject will be made clear and plain by explanations in the shop building.

Building and Building Materials.—This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts, and the correct methods of making and fixing each in its relations to the others. They are also taught to make estimates and bills of materials.

JUNIOR YEAR.

Steam and Steam Machinery.—This is a study of engines and boilers, and steam-plants in general. A text-book will be used. Work will be done with the engine and boiler. The students will learn to fire the boiler and tend the engine.

Graphic Statics.—The student learns to determine the stresses in framed structures, bridge and roof trusses by the graphic methods. This study is a prelude to the subject of Bridges and Roofs in the next year, and is taught entirely by lectures.



CLASS IN CARPENTRY.

Surveying.—During the Winter the students will confine their attention to a theoretical study of the principles of surveying, and in the Spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land. They will in this way become thoroughly familiar with the theory and practical use of surveying instruments.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—The students are here taught the analytical methods of determining the stress of the various members of a roof or bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures.—During the year one hour per week will be devoted to lectures upon the Strength of Materials and Designing, with special attention to the Designing of Structures and Plants for particular purposes. And, if possible, some time will be devoted to Water-works, Sewerage, etc.

PRACTICAL WORK IN THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

During the Summer of 1890 a large shop building was erected.

The building is a two-story building, and contains on the first floor, a Machine Shop, 30 x 40 feet; a Forge Shop, 30 x 40 feet; an Office and Class-room, 23 x 24 feet, and a Washroom, 10 x 23 feet. On the second floor is a Wood-turning

Shop, 30 x 40 feet; a Carpenter Shop, 30 x 40 feet, and a Drawing-room, 23 x 35 feet.

After the building was completed the Carpenter Shop, Forge Shop and Drawing-room were fitted up.

The Carpenter Shop is equipped with thirty carpenter-benches and all the necessary tools for each bench.

Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench.

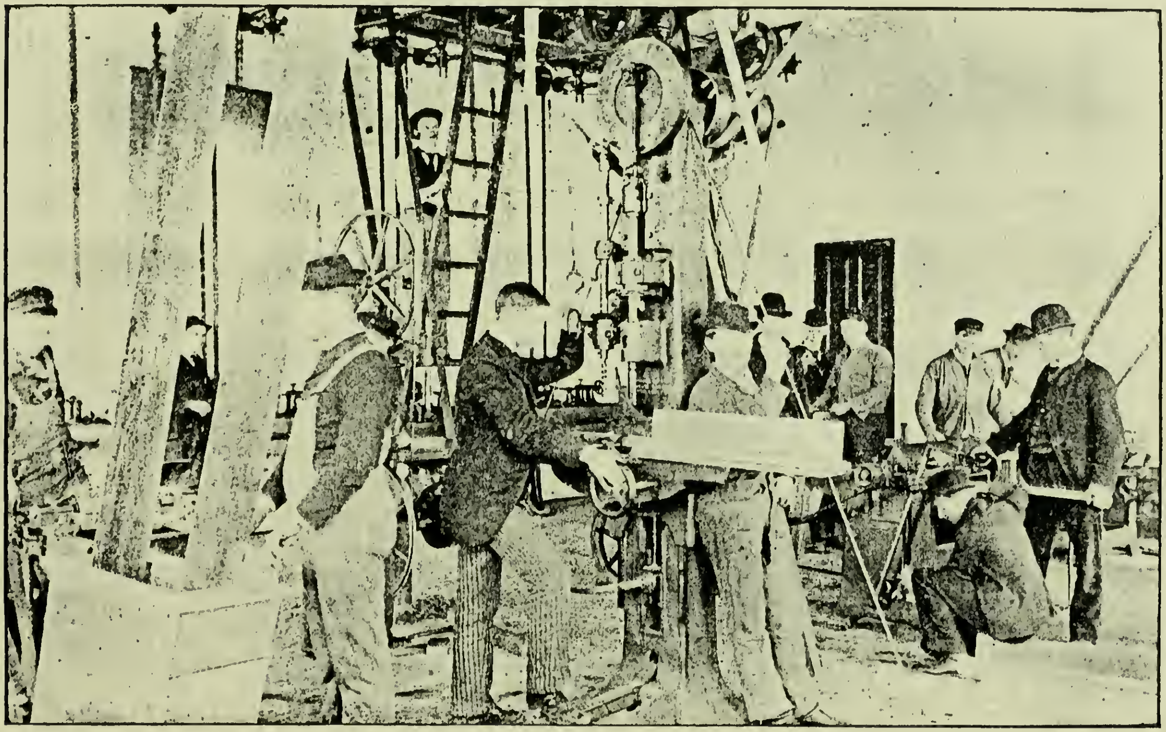
These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him a jack-plane, ¾-inch chisel, ½-inch chisel, ¼-inch chisel, and a slip-stone. These tools are used only by the student to whom they are issued, and he is held responsible for them. He is required to keep them sharp and in good order, and upon leaving college to return them to either the professor or his assistant.

The work in the Carpenter Shop consists of a number of exercises by which the student is taught the use of carpenters' tools.

The Forge Shop is fitted up with twenty forges. Each forge is equipped with a water-tank, shovel and poker. For each forge there are provided the following tools: an anvil, hammer, steel square, tongs and hardy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels for general use in the shop.

The work in the Forge Shop consists of a number of graded exercises by which the students are taught to work in iron and steel. The students begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools, and may learn to work fast. They are then taught how to build and tend the fire, and to heat iron. When they can do this, they forge simple shapes out of hot



MECHANICAL CLASS IN WOOD TURNING ROOM.

iron They learn to "bend," to "draw," to make "scarfs," and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they are taught to work with steel and to temper it, and are given a short course in tool-making.

The course of work in the Forge Shop for the students in the Agricultural Course is shorter than that for the mechanical students and is laid out specially for them.

During the summer of 1891 a boiler-house was built and the Wood-turning Shop was equipped.

The equipment of this shop consists of ten 12-inch swing lathes. one saw and Dado machine, one 20-inch pony planer, one mortising and boring machine, one 30-inch band saw, one 6-inch "sticker," one grindstone, one mitering machine, and four benches equiped with iron vises and all necessary hand tools for pattern-making.

Each lathe is equipped with the necessary turning chisels and tools.

The Junior Class works ten hours per weeek in this shop. They work with each machine in turn and learn to use all well. They take turns in tending to the machinery, shafting and belting, and are given a course in pattern making the last part of the year.

To run these machines and the machines that will be put in the machine-shop, there is a 25 horse-power Woodbury engine, made by the Stearns Manufacturing Company. It is of the high speed automatic type. Steam is supplied by a 30 horse-power boiler in the boiler-house.

The students of the Junior Class take turns in firing and tending to the boiler, and also in tending to the engine. Whenever the class is at work in the shop, one of the students is firing and tending the boiler and another is looking after the engine.

In addition to the regular course of exercises, the students of the Junior Class are called upon to make boxes, cupboards, shelves, drawing-boards, &c., and to do such work as may be necessary for the department or the College.

During the coming summer of 1892 a machine-shop will be equipped with all the necessary machines and tools for working in iron.

It must be remembered that all the exercises in the different shops are designed simply for the instruction of the students. Nothing is made for sale.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on it all the necessary dimensions and notes.

This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

In the beginning of the course the instructor explains to the class the meaning of the various conventional signs on the drawings, and also shows each student how to "lay out" his work from the drawing. As the students acquire facility in reading the working drawings, and skill in "laying out" work, and in handling tools, the exercises are made more difficult.

When an exercise is given to the class, the instructor explains where and how the work illustrated by that particular exercise is used in practical construction.

DRAWING.

During the Freshman year all the students in the College take a course in drawing. The drawing of this year consists of a little free-hand sketching, a course in lettering, and the elements of mechanical drawing.

After the Freshman year each student taking the Mechanical Course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and details

CLASS IN MECHANICAL DRAWING.

of work and machinery already built and set up. The students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked. lettered and finished as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior Class he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shop are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making drawings of objects that already exist.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

DEPARTMENT OF MATHEMATICS.

ADJUNCT—PROF. YATES

The course in Mathematics begins at the beginning of the Freshman year, and continues during the whole four years for mechanical students. Agricultural students drop the study of Mathematics after having finished Geometry.

FRESHMAN CLASS.

During this year it is our purpose to give the young men a thorough and practical knowledge of Arithmetic and begin the study of Algebra.

This class recites by sections, each section five times a week.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

SOPHOMORE CLASS.

Five Recitations a week.

Applicants for this class will be examined on the work of the Freshman year.

This class completes Algebra and begins Geometry. In the teaching of Algebra every effort is directed to lead students to pursue the study without feeling that it is characterized by arbitrary laws and mysterious processes; in other words, to work by reason, and not by rules.

JUNIOR CLASS.

Four Recitations a week.

The completion of Geometry, followed by a course in Analytical Geometry, will occupy this year.

In the study of Geometry much additional work is insisted on, in the way of original exercises. No efforts are spared to compel students to think, and invent new methods and demonstrations.

Trigonometry will be taken by the mechanical students with surveying during this year.

SENIOR CLASS.

Five Recitations a week.

The course in Analytical Geometry will be completed. Much exercise work will be done since it is only by solving problems which require some degree of original thought, that any real mastery of the study can be gained.

During the Senior year the class will also take a course in Differential and Integral Calculus. It is designed to give the students a sufficient knowledge of this subject for all practical purposes.

During this year agricultural students will take Trigonometry, with Surveying.

ENGLISH DEPARTMENT.

PROF. HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother-tongue with accuracy and with ease, and be an intelligent reader of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is this year adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

This class recites by sections: each section four times a week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text-books: Meiklejohn's Grammar, Lockwood's Lessons in English. Parallel for 1892–'3: The Sketch-Book, Twice Told Tales, Poe's Poems.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by

a course in the elements of Rhetoric. In this course in Rhetoric, special attention will be paid to the analysis of themes and their subsequent elaboration step by step. Much of this work will be done in the lecture-room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text-books: Lounsbury's English Language, Clark's Practical Rhetoric. Parallel for 1892–'3: For class-room, De Quincey's Essays on the Poets; for examination, Carlyle's Burns.

JUNIOR CLASS.

Three Times a Week.

The first part of this year will be spent upon Logic and Logical Praxis. Afterwards, the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it. A short course in Linguistics will also be given.

Text-books: Jevons's Logic, Gregory's Practical Logic, Genung's Rhetoric, Lectures. Parallel for 1892–'3: Macaulay's Frederick, Ruskin's Modern Painters, Garnett's English Prose from Elizabeth to Victoria.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. But some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for 1892–'3: Marlowe's Jew of Malta, Shakespeare's Tempest and Cæsar will be assigned for class work. The members of this class will be required to take a prescribed course of reading, but each course will be marked off individually.

Text-books: Minto's Literature, Welsh's Literature, Hawthorne and Lemmon's American Literature, Garnett's English Selections from Elizabeth to Victoria, Hudson's Tempest, Rolfe's Caesar, Browne's Shakespeare's Versification, Gummere's Hand-Book of Poetics.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT-PROF. YATES.

Both Agricultural and Mechanical students take Bookkeeping in the Freshman and Sophomore classes. In the Spring and Summer Terms of the Freshman year, Single-Entry is studied. The work in the text-book will be supplemented by numerous original examples and sets for practice. This class recites twice a week.

The Sophomore class will recite twice a week during the Spring and Summer Terms. The time of this class will be given entirely to Double-Entry, and to a practical application of the principles of Bookkeeping to branches of business that are not strictly mercantile.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course students will be given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern They will be taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort will be directed towards teaching students how to read, and to think, rather than to recite.

Instruction will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided to outside readings on special subjects, for which the College Library will afford ample conveniences.

DEPARTMENT OF PHYSICS.*

Instruction in Elementary Physics is given to the members of the Freshman Class during the Fall and Winter Terms, attention being given to the consideration of Energy, Force, Properties and Constitution of Matter, Gravitation, Friction and Machines, States of Matter, Heat, Light, Sound, Magnetism and Electricity. The recitations are illustrated by full experiments in the class-room.

Text-book: Avery's Elements of Natural Philosophy.

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*At present this Department is under the direction of the Professor of Chemistry.

LOCATION.

The College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence, on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from its corporate limits, the site is, in all respects, a suitable one. The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about three years, and the land is being brought up mainly by judicious vegetable manuring. More land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings,

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake County, and the brownstone from Wadesboro, Anson County

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, etc., are well arranged.

A carefully planned brick workshop, two stories high, has been erected, and in use since September, 1890. This building contains a machine-shop, forge shop, woodworking shop, carpenter shop, class-room, office and wash-room, and is equipped for thorough work in every particular.

It is intended to erect, during the summer of 1892, barns, silos, stables and the like, which shall be models of their kind. Meanwhile, for all purposes of instruction, students will have the use of the large buildings for such purposes, already erected on the Experiment Station Farm, near by the Agricultural and Mechanical College.

In the basement of the main College building every convenience has been provided for housekeeping, and no facility is lacking in the boarding department The cost of table-board alone will, under no circumstances, exceed eight dollars per month, and it is in contemplation to arrange for a mess system under which students, assisted by a steward and well equipped kitchen, store-rooms and dining-hall, all provided by the College, may regulate their own expenses, and by coöperation perhaps effect some further reduction of cost.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, with convenient bath-rooms on the second floor.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter, and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore, or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

DEGREES.

Two degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science in Agriculture (B. S. Agr.). Upon those who, through four years, have done likewise in the Mechanical course, the degree of Bachelor of Engineering (B. E.) will be conferred

YOUNG MEN'S CHRISTIAN ASSOCIATION.

A majority of the students are consistent church members, and have united in a Young Men's Christian Association, which meets once each week. Its meetings are well attended, and exert a most beneficial influence.

LITERARY SOCIETIES.

There are two literary societies in the College, the Pullen and the Leazar, and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

There is also an Agricultural Society, which is full of life and energy.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour.

PRIZES.

A gold medal, of the value of ten dollars, will be given to the student who most distinguishes himself in the agricultural course, and a second medal (or the money value thereof, ten dollars), to the student who, in addition to his class work, earns most money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities, proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit, and hold their sons to strict account for them, since, if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through two entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants must be at least fourteen years of age: must furnish evidence of good moral character and physical development; must understand the forms and laws of their own language fairly well, and must be familiar with arithmetic, including the practical rules of the same, through fractions, and have a fair knowledge of geography and State history.

MODE OF ADMISSION.

On the second Thursday in July and September, or such other days as may be decided on by the County Boards of Education, applicants (said applicants to be restricted to the provisions of section 8, chapter 410, Laws of 1887 *), for admission to the College will present themselves before the County Superintendent of Education, and submit to an examination by written questions, which will be prepared and furnished by the President of the College to the said Superintendent, who is requested to make sure that candidates receive no help in their examinations.

The Superintendent will please forward all completed examinations to the President of the College *without delay*, in order that there may be sufficient time for their careful perusal by a committee of the Faculty appointed for that duty; after such perusal the County Superintendent will be promptly informed which papers meet the College requirements, and he, with his Board of Education, will, as soon as possible, select their appointees from the successful candidates, and issue certificates to as many as their county has members of the House of Representatives. All candidates so chosen will be notified of their appointment, and must present themselves at the College at such time as may be designated by the President.

The same educational qualifications will be required of all other applicants, and their examination conducted by the Faculty upon arrival.

Students after arriving in Raleigh must report at the College at once.

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*See Sec. 8 on page 52 of this Catalogue.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to its rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected, at all times, to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever service is not held in the College building.

Each occupant of a dormitory will be expected to keep his room, or section of a room, in good order, and ready for inspection at any time.

CLOTHING, ETC.

No uniform suit is required. Each student should bring a bag in which to send washing to the laundry, and must make out washing-lists on blanks, which will be furnished by the Matron, who will see that all articles delivered to her will be safely handled and returned. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm, or in the workshop; in any event, a pair of overalls for such work.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost.*

BOARD AND LODGING.

Board and lodging will be furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month and lodging as below stated.

Each student living in the College must bring with him a change of sheets and pillow cases and four towels, plainly marked.

It is understood that none except county students are expected to lodge and board in the College buildings. There not only is no objection, but it may be more convenient and desirable that regular pay students obtain board and lodging outside the College building—such boarding places to be subject to the approval of the Faculty.

Two well-built brick dormitories have been erected during the session of 1891–'92, and a third is now in process of building under contract to be finished September 15, 1892. Each of these buildings will give comfortable and wholesome lodging to twenty students, and with the original rooms provided in the main College building, will suffice for the needs of the coming year.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1. Tuition free.	
2. Board at $8 per month, per session 10 months	$ 80 00
3. Washing at 75 cents per month	7 50
4. Fuel and medical attendance, but not medicine, for entire session	7 50
Total	$ 95 00

II FOR OTHER STUDENTS.

1. Tuition per session	$ 20 00
2. Board at $8 per month, 10 months	80 00
3. Washing at 75 cents, term 10 months	7 50
4. Books, fuel and medical attendance, but not medicine, for entire session	7 50
5. For lodging in College building, room, furniture, bedding, etc	10 00
Total	$125 00

Each student must also deposit on entering a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Each student in Chemistry must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year. These breakages are seldom over fifty cents per year for each hour per week spent in the laboratory.

For deposit in Horticultural laboratory see that department.

All students must furnish their own oil, lamp chimneys, books, stationery, drawing pencils, thumb-tacks, and medicines, and arrangements will be made for them to get these at lowest cost.

ACTS OF LEGISLATURE AND CONGRESS IN RELATION TO THE COLLEGE.

The act under which the College was established became a law on the 7th day of March, 1887, and reads as follows:

AN ACT SUPPLEMENTAL TO CHAPTER 308, LAWS OF 1885, ENTITLED "AN ACT TO ESTABLISH AND MAINTAIN AN INDUSTRIAL SCHOOL."

The General Assembly of North Carolina do enact:

SECTION 1. That the Industrial School provided for in chapter 308, Laws of 1885, shall be denominated "The North Carolina College of Agriculture and Mechanic Arts," and shall be located on the lands offered to be donated, in accordance with the provisions of said law, by R. Stanhope Pullen, of Raleigh, Wake County, lying west of and near the city of Raleigh.

SEC. 2. The leading object of this College shall be, without excluding other scientific and classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

SEC. 3. The management and control of the said College and the care and preservation of all its property shall be vested in a Board of Trustees to be composed of the Board of Agriculture of North Carolina, and five other persons who shall be appointed by the Governor, by and with the consent of the Senate, who shall have power to appoint its President, instructors, and as many other officers or servants as to them shall appear necessary and proper; and shall fix their salaries and prescribe their duties; they shall also prescribe rules for the management and preservation of good order and morals at the said College, as are usually made in such institutions, and are not inconsistent with the Constitution and laws of the State; have charge of the disbursement of its funds, and have general and entire supervision of the establishment and maintenance of the said College. And the President and instructors in the said College, by and with the consent of the said Board of Trustees, shall have the power of conferring such certificates of proficiency, or marks of merit, as are usually conferred by such colleges: *Provided*, that the Board of Trustees shall be composed half of each political party.

SEC. 4. The certificate of indebtedness of this State for one hundred and twenty-five thousand dollars, issued for the principal of the Land Scrip Fund to the Trustees of the University of North Carolina, and bearing interest at six per cent. per annum, shall be transferred, on the thirtieth day of June, eighteen hundred and eighty-eight, or as soon thereafter as it shall appear that the Agricultural and Mechanical College is ready to receive the interest on the Land Scrip Fund, and that the principal of the fund will not in any way be compromised by such a transfer to the said Board of Trustees for the benefit of the said North Carolina College of Agriculture and Mechanic Arts, and the interest thereon shall thereafter be paid to them by the Treasurer, semi-annually, on the first day of July and January in each year, for the purpose of aiding in the support of the said College in accordance with the provisions of the act of Congress, approved July 2, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and mechanic arts."

Sec. 5. That the Directors of the North Carolina State Penitentiary shall be required to furnish all brick and stone requisite for the erection of the necessary buildings of the said College, and to furnish convict labor for preparation of the grounds and the foundations, the erection of the said buildings, and for such other purposes in connection with the establishment of the said College as they may be able, such material and labor to be free of charge to said College: *Provided*, that the work required of the Penitentiary shall not interfere with any contracts upon which the Penitentiary may be engaged, and that the work by the Penitentiary shall be limited to two years from date.

Sec. 6. That the Board of Agriculture shall turn over to the Board of Trustees of said College, as provided in this act, to be applied to the establishment, maintenance and enlargement of the said College, all funds, land, material and other property which may have accumulated in their hands, for the establishment of an Industrial School, under chapter 308, Laws of 1885, and annually thereafter the whole residue of their funds, from licenses on fertilizers remaining over and not required to conduct the regular work of that department. The Agricultural Experiment and Fertilizer Control Station, already established under the management of the said Board of Agriculture, shall be connected with the said College, and the Board of Agriculture may turn over to the said Trustees, in whole or part, for the purposes of said College, any buildings, lands, laboratories, museums or other property which may be in their possession, as in their judgment may be thought proper. The said Board of Trustees are empowered to receive any donations of property, real or personal, which may be made to the said College of Agriculture and Mechanic Arts, and shall have the power to invest or expend the same for the benefit of said College. The said Board of Agriculture shall have power to accept, on behalf of this State, donations of property, real or personal, and any appropriations which may be made by the Congress of the United States to the several States and Territories for the benefit of Agricultural Experiment Stations, and they shall expend the whole amount so received for the benefit of the aforesaid Agricultural Experiment Station, and in accordance with the act or acts of Congress in relation thereto.

Sec. 7. The use of the three hundred acres of land, more or less, known as the Camp Mangum tract, belonging to the State of North Carolina, and situated one-half mile west of the State Fair Grounds, is hereby given to the said Board of Trustees for the benefit of said College of Agriculture and Mechanic Arts, or of the Experiment Station connected therewith.

Sec. 8. The Board of Trustees shall admit to the benefits of the said College, free of any charge of tuition, upon proper evidence of good moral character and of their inability or the inability of their parents or guardians to pay their tuition, a certain number of youths, to be determined by them, not to be more than one hundred and twenty, and shall apportion the same to the different counties applying, according to their relative number of members in the House of Representatives of North Carolina. The said board are hereby empowered to make the necessary regulations for carrying this into effect and for the admission of other students.

Sec. 9. Every student in this College of Agriculture and Mechanic Arts shall be required to take a course of manual training or labor, together with the other courses of study and exercise, as the Board shall direct.

Sec. 10. All laws and sections of laws in conflict with this act are hereby repealed.

Sec. 11. This act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this the 7th day of March, 1887.

THE LAND SCRIP ACT.

The Land Grant Act of the Congress of the United States, passed in 1862, to promote the establishment and provide for the maintenance of agricultural and mechanical colleges in the various States of the Union:

An Act Donating Public Lands to the several States and Territories which may provide Colleges for the Benefit of Agriculture, Mechanic Arts and Military Tactics, known as the Morrill Act.

Section 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there be granted to the several States for the purposes herein mentioned an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, that no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one-quarter of a section: and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which the State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, that in no case shall any State to which the land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States: but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents or less per acre: *And provided further*, that not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, that no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from the date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied, without diminution whatever, to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore mentioned provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than .. per centum per annum upon the par value of said stocks, and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 5 of this act), and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of the act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted,* That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First—If any portion of the funds invested as provided by the foregoing section, or any portion of the interest thereon, shall by any action or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished, and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms whenever authorized by the respective Legislatures of said States.

Second—No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third—Any State which may take or claim the benefit of the provision of this act shall provide, within five years, at least, not less than one college as described in the fourth section of this act, or the grant to such State shall cease, and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchase under the State shall be valid.

Fourth—An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State, industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free, by each to all other colleges which may be endowed under the provisions of this act, and one copy to the Secretary of the Interior.

Fifth—When lands shall be selected from those which have been raised to double the minimum in price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth—No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefits of this act.

Seventh—No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its Legislature, within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted*, That the land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted*, That the land officers shall receive the same for locating land scrip, issued under the provisions of this act, as is now allowed for the location of military bounty land warrants under existing laws: *Provided*, their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted*, That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip, until the whole amount shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

THE HATCH ACT.

A copy of an Act of the United States, passed March 2, 1887, known as the "Hatch Act":

AN ACT TO ESTABLISH AGRICULTURAL EXPERIMENT STATIONS IN CONNECTION WITH THE COLLEGES ESTABLISHED IN THE SEVERAL STATES UNDER THE PROVISIONS OF AN ACT APPROVED JULY 2, 1862, AND OF THE ACTS SUPPLEMENTAL THERETO.

SECTION 1. *Be it enacted by the Senate and House of Representativss of the United States of America, in Congress assembled*, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory established, or which may hereafter be established, in accordance with an act approved July 2, 1862, entitled "An Act donating lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station": *Provided*, that in any State or Territory in which two such colleges have been, or may be, so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the Legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops: the capacity of new plants or trees for acclimation; the analysis of soils and water: the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable. having due regard to the varying conditions and needs of the respective States and Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms. as far as practicable, for the tabulation of results of investigations or experiments: to indicate from time to time such lines of inquiry as to him shall seem most important, and, in general, to furnish such advice as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the Commissioner of Agriculture, and the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15.000 is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the treasurer or other officer duly appointed by the governing board of said college to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however*, that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection. enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act, and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations established by such States; and in case any State shall have established, under provisions of said act of July 2 aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or school, and said States shall have established or shall hereafter establish a separate agricultural college or school which shall have connected therewith an experimental farm or station, the Legislature of such State may apply in whole or in part the appropriation by this act made to such agricultural college or school: and no Legislature shall, by contract expressed or implied. disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, that payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of the Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 2, 1887.

TABLE OF STUDIES.

FOR THE FOUR YEARS OF THE COURSE IN AGRICULTURE.

FRESHMAN YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Agriculture or Horticulture	4
English	4	Shop Work	4
Physics	2	Drawing	3
Chemistry	1		
History	2		
Horticulture	1		
Agriculture	1		
	16		11

SOPHOMORE YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Agriculture	2	Agriculture, four months	4
Horticulture	2	Horticulture	4
Mathematics	5	Chemical Laboratory	2
English	3	Blacksmithing, five months	4
Inorganic Chemistry	3		
History	1		
	16		10

JUNIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	4	Agriculture	4
Agriculture	3	Horticulture	4
Horticulture	2	Analytical Chemistry	6
Agricultural Chemistry	3		
English	3		
History	1		
	16		14

SENIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Agriculture	4	Agriculture	4
Horticulture	4	Horticulture	4
Organic Chemistry	3	Analytical Chemistry	8
English	3		
Trigonometry and Surveying—(winter and spring term)	3		
History	1		
	15		16

Thesis.

FOR THE FOUR YEARS OF THE COURSE IN MECHANICS.

FRESHMAN YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Agriculture and Horticulture	4
English	4	Shop Work	4
Physics	2	Drawing	3
Chemistry	1		
History	2		
Horticulture	1		
Agriculture	1		
	16		11

SOPHOMORE YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Shop Work	8
English	3	Drawing	5
Mechanics, two-thirds of year	3	Chemical Laboratory	2
Building and Materials for one-third year	3		
Inorganic Chemistry	3		
History	1		
	15		15

JUNIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	4	Shop Work	10
English	3	Drawing	5
Graphic Statics, one-third of year	3		
Surveying, two-thirds of year	3		
Steam and Steam Machinery	4		
History	1		
	15		15

SENIOR YEAR.

Recitations.	*Hours.*	*Practice.*	*Hours.*
Mathematics	5	Shop Work	10
Applied Mechanics	3	Drawing	5
Bridges and Roofs	2		
Lectures on Mechanics	1		
English	3		
History	1		
	15		15

Thesis.

CALENDAR.

The College session begins on the first Thursday in September.

The First or Fall Term ends at Christmas.

The Second or Winter Term ends March 31st.

The Third or Spring Term ends with the session on the second Wednesday in June.

Commencement Day, June 14, 1892.

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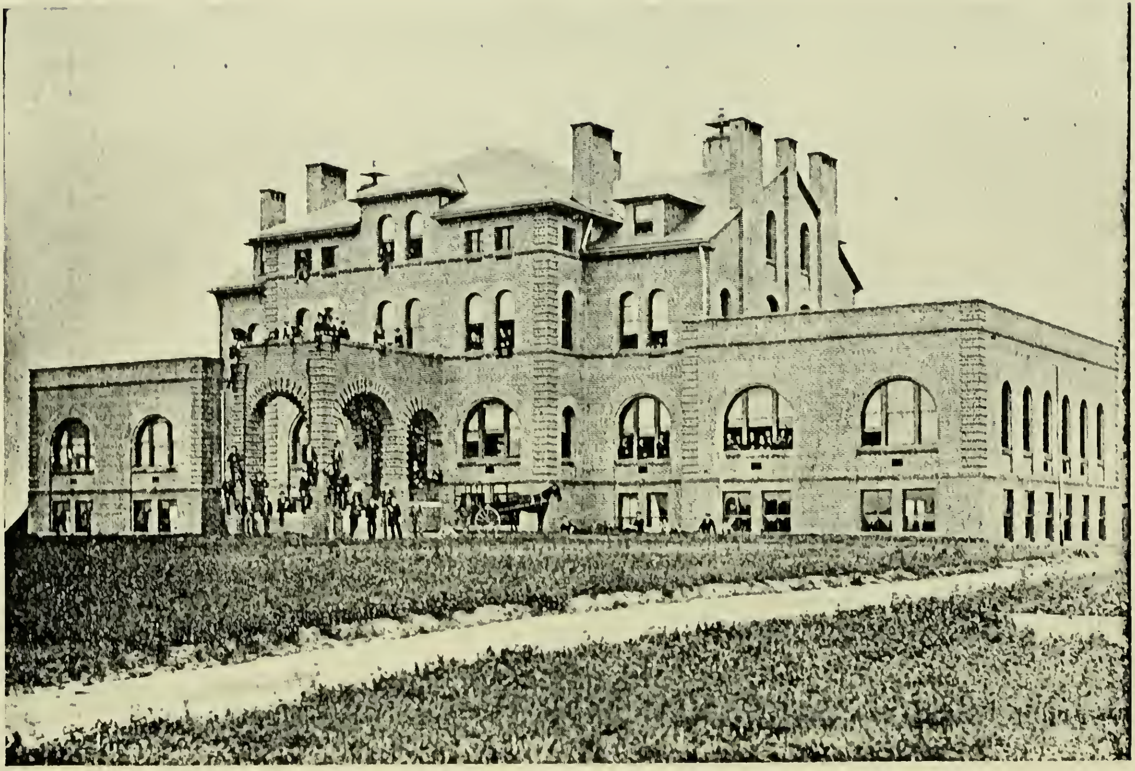


NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS. (MAIN BUILDING).

FOURTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA

COLLEGE OF AGRICULTURE AND MECHANIC ARTS,

RALEIGH, N. C.

1892-'93.

Fall Term Begins on September 7, 1893.

RALEIGH:
EDWARDS & BROUGHTON, PRINTERS.
1893.

TRUSTEES OF THE COLLEGE.

W. S. Primrose President of the Board.	Raleigh.
†W. F. Green	Franklinton.
D. A. Tompkins	Charlotte.
†H. E. Fries	Salem.
N. B. Broughton	Raleigh.
†W. R. Williams	Falkland.
†J. B. Coffield	Everett's.
†W. R. Capehart	Avoca.
†W. E. Stevens	Clinton.
†J. H. Gilmer	Greensboro.
†J. F. Payne	Alma.
†J. R. McLelland	Mooresville.
†C. D. Smith	Franklin.
R. W. Wharton	Washington.

EXECUTIVE COMMITTEE.

W. S. Primrose, *Chairman.*

W. F. Green, Henry E. Fries.

N. B. Broughton, *---------------

*---------------

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*

*--------------- *---------------

---

† Members of the Board of Agriculture, and elected by the General Assembly. Others are appointed by the Governor and confirmed by the Senate.

* To be filled at the June meeting of the Board.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
President.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry.

D. H. HILL, A. M.,
Professor of English.

B. IRBY, M. S.,
Professor of Agriculture.

W. C. RIDDICK, A. B., C. E.,
Professor of Mechanics and Applied Mathematics.

R. E. L. YATES, A. M.,
Adjunct Professor of Mathematics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

CHARLES M. PRITCHETT, B. S.,
Instructor in Mechanics.

CHARLES B. PARK,
Instructor in Practical Mechanics.

*HUGH L. MILLER, PH. B.,
Instructor in Chemistry.

B. S. SKINNER,
Assistant in Agricultural and Horticultural Practice.

PROFESSOR WITHERS, *Secretary of the Faculty.*
PROFESSOR HILL, *Bursar.*
MR. SKINNER, *Superintendent of the Farm.*
MR. J. N. HUBBARD, *Steward.*
MRS. SUE C. CARROLL, *Matron.*
J. B. DUNN, M. D., *Physician.*

---

* Resigned.

OFFICERS

OF THE

North Carolina Experiment Station

AND

STATE WEATHER SERVICE.

H. B. Battle, Ph. D	Director and State Chemist.
F. E. Emery, B. S	Agriculturist.
Gerald McCarthy, B. Sc	Botanist and Entomologist.
W. F. Massey, C. E	Horticulturist.
C. F. von Herrmann (U. S. W'th'r Bureau)	Meteorologist.
B. W. Kilgore, M. S	Assistant Chemist.
F. B. Carpenter, B. S	Assistant Chemist.
R. E. Noble, M. Sc	Assistant Chemist.
M. S. McDowell, B. S	Assistant Chemist.
Alexander Rhodes	Assistant Horticulturist.
Roscoe Nunn (U. S. Weather Bureau)	Assistant Meteorologist.
A. F. Bowen	Secretary.

EXPERIMENT STATION COUNCIL.

Alex. Q. Holladay, *Chairman.*

W. S. Primrose, H. B. Battle.

STUDENTS.

SENIOR CLASS.

Name.	*County.*	*Admitted.*
ALLEN, ROBERT WILSON	Anson	1889.
ASBURY, SAMUEL ERSON	Gaston	1889.
BONITZ, HENRY EMIL	New Hanover	1889.
FLOYD, FRANK FULLER	Granville	1889.
FRANCKS, CHARLES DUFFY	Onslow	1889.
GIBBON, EDWARD MOORE	Mecklenburg	1889.
GRAY, GEORGE PENDER	Edgecombe	1889.
HOLLADAY, CHARLES BOLLING	Wake	1889.
LYTCH, WILLIAM MCNEILL	Richmond	1889.
MATHEWS, WALTER JEROME	Buncombe	1889.
MCKOY, JAMES WILLIAM	Buncombe	1889.
MEACHAM, FRANK THEOPHILUS	Wake	1889.
SELLARS, CARL DEWITT	Alamance	1889.
SEYMOUR, CHARLES EDGAR	Franklin	1889.
THORNE, BUXTON WILLIAMS	Halifax	1889.
TURNER, WILLIAM HARRISON	Montgomery	1889.
WILLIAMS, CHARLES BURGESS	Camden	1889.
YARBROUGH, LOUIS THOMAS	Caswell	1889.
YOUNG, SAMUEL MARVIN	Wake	1889.

JUNIOR CLASS.

Name.	*County.*	*Admitted.*
ASHE, THOMAS MARTIN	Wake	1890.
BOYD, PASCAL STRONG	Iredell	1890.
CORPENING, CHARLES EDWARD	Caldwell	1890.
COX, DAVID, Jr	Perquimans	1890.
FAISON, SHERWOOD BADGER	Wake	1890.
HARGROVE, PEYTON CLIFFORD	Edgecombe	1890.
PATTERSON, ROBERT DONNELL	Orange	1890.
PEARSON, CHARLES	Polk	1890.
ROGERS, ZEBBIE GEORGE	Person	1891.
SAUNDERS, JOHN HYER	Pitt	1891.
WALTON, BENJAMIN FRANKLIN	Wake	1890.
WETMORE, THEOPHILUS BROADFOOT	Rowan	1890.
WILLIAMS, ROBERT MURPHY	Sampson	1890.
WILSON, JOHN MCCAMY	Mecklenburg	1890.

SOPHOMORE CLASS.

Name.	*County.*	*Admitted.*
Anthony, Julius Alexander	Catawba	1891.
Bizzell, James Adrian	Cumberland	1891.
Blount, John Isham	Sampson	1891.
Brawley, James Washington	Iredell	1891.
Bullock, George Tarry	Vance	1891.
Bullock, Walter Austin	Vance	1891.
Clark, David	Wake	1892.
Corbett, George Washington, Jr	Pender	1891.
Cowper, Lyman Atkinson	Gates	1891.
Darden, Edwin Speight	Greene	1891.
Davis, William Kerney, Jr	Franklin	1891.
Dey, Joseph Charles	Currituck	1891.
Ennett, Lee Borden	Carteret	1891.
Faust, Isaac Henry	Randolph	1891.
Gold, Charles Wyllis	Wilson	1891.
Harriss, William Henry	Warren	1891.
Hay, Oscar Payne	Wake	1891.
Highsmith, Jere Eustis	Sampson	1891.
Hughes, Christopher Miller	Wake	1891.
Hunter, Malcolm Beall	Mecklenburg	1891.
McEachin, Albert Dozier	Richmond	1891.
McKeown, Samuel Christopher	South Carolina (State)	1891.
Patterson, Mann Cabe	Orange	1890.
Prince, Abram Hinman	Vance	1891.
Privott, Victor Vashti	Chowan	1891.
Sinclair, James	New Hanover	1891.
Spencer, John Andrew	Franklin	1890.
Stafford, Frank Caldwell	Cabarrus	1891.
West, William Shaw	Wake	1891.
Williams, George Daniel	Gates	1891.
Wiswall, Howard, Jr	Beaufort	1891.
Yarbrough, Charles Garrett	Caswell	1891.

FRESHMAN CLASS.

Name.	*County.*	*Admitted.*
Beard, Robert Bruce	Forsyth	1892.
Belvin, Charles Hinton, Jr	Wake	1892.
Bissett, William	New Hanover	1892.
Bivens, Henry Justus	Union	1892.
Blount, James Dickson	Sampson	1892.

Name.	*County.*	*Admitted.*
Carroll, John William	Wake	1892.
Council, John Taylor	Bladen	1892.
Dillingham, Paul	Craven	1892.
Foscue, Julian Manly	Jones	1892.
Galloway, Harry Gray	Surry	1892.
Green, Marion Jackson	Rutherford	1892.
Green, Maurice Marvin	Wake	1892.
Grier, Samuel Andrew	Cabarrus	1892.
Harris, McCamy Jay	Cabarrus	1892.
Heartt, Dennis	Wake	1892.
Hicks, John Thomas	Durham	1892.
Howard, John	Edgecombe	1892.
Jackson, William Colbert	Pitt	1892.
LaRoque, Frederick Mabson	Lenoir	1892.
Leach, Angus Alexander	Wilkes	1892.
Lytch, James, Jr	Richmond	1892.
MacDonald, Fred	Wayne	1890.
MacRae, James Christopher	Cumberland	1892.
Matthews, Paul Vance	Halifax	1892.
McAllister, Willis Pope	Robeson	1892.
Mewborne, Robert Graham	Lenoir	1892.
Mitchell, George Lee	Surry	1892.
Moore, Tilon Vance	Brunswick	1892.
Riddick, Nathaniel Jones	Gates	1892.
Rumple, Lawrence Jay	Mecklenburg	1892.
Satterthwaite, William Fowle	Beaufort	1892.
Seymore, Thomas Henry	Franklin	1892.
Shafer, William Anton	Virginia (State)	1892.
Singletary, Walter Oscar	Robeson	1892.
Smithwick, Thomas Jehu	Bertie	1892.
Squires, Mark	Union	1892.
Stanley, Paul Hampton	Wayne	1892.
Strayhorn, Robert Harris	Orange	1892.
Trigo, Jose Fabio Santos	Havana, Cuba	1892.
Upchurch, William Garland	Wake	1892.
Vick, Mark Rodgers	Northampton	1892.
Wessell, Emil August	New Hanover	1892.
West, Thomas Blake	Wake	1892.
Whitaker, John Richard, Jr	Halifax	1892.
Williams, Henry Lloyd	Gates	1892.
Williams, Jesse Burgess	Camden	1892.
Wilson, Amme Anerol	Gaston	1892.
Wishart, Erastus Strong	Robeson	1892.
Yarborough, Webb Chitmond	Caswell	1892.

REPRESENTATION BY COUNTIES.

Alamance	1
Anson	1
Beaufort	2
Bertie	1
Bladen	1
Brunswick	1
Buncombe	2
Cabarrus	3
Caldwell	1
Camden	2
Carteret	1
Caswell	3
Catawba	1
Chowan	1
Craven	1
Cumberland	2
Currituck	1
Durham	1
Edgecombe	3
Forsyth	1
Franklin	4
Gaston	2
Gates	4
Granville	1
Greene	2
Halifax	3
Iredell	2
Jones	1
Lenoir	2
Mecklenburg	4
Montgomery	1
New Hanover	4
Northampton	1
Onslow	1
Orange	3
Pender	1
Perquimans	1
Person	1
Pitt	2
Polk	1
Randolph	1
Richmond	3
Robeson	3
Rowan	1
Sampson	4
Surry	2
Union	2
Vance	3
Wake	16
Warren	1
Wayne	2
Wilkes	1
Wilson	1
	111
Cuba	1
South Carolina	1
Virginia	1
	114

SUMMARY BY CLASSES.

Seniors	19
Juniors	14
Sophomores	32
Freshmen	49
Total	114

A SHORT HISTORY OF THE COLLEGE.

The Watauga Club of Raleigh, in January, 1885, after having given the subject considerable thought, memorialized the Legislature, asking for the establishment of a State industrial school, where thorough instruction should be given "in the wealth-producing arts and sciences."

Several bills were introduced in the Legislature, the one drawn by Hon. A. Leazar becoming a law on March 7, 1885, by a vote of 51 to 11 in the House and 23 to 9 in the Senate.

The act provides, among other features, as follows:

"1st. That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and when an adequate donation should be made by any city or town, there the school should be located, giving the place the preference which offered the greatest inducements.

"2d. That the school should be under joint control of the Board of Agriculture and directors from such town or city.

"3d. That the instruction should be in woodwork, mining, metallurgy, practical agriculture and such other branches of industrial education as may be deemed expedient.

"4th. That the Board of Agriculture should be authorized to apply annually $5,000 of the surplus funds of their department to the establishment and maintenance of said school."

After successive advertisements and many meetings, in which the subject was fully discussed, the Board of Agriculture accepted an offer made by the city of Raleigh, and appropriated the sum of $5,000 for that year (1886), pursuant to the terms of the act.

Before this result was attained, the earnest advocates of the measure met in mass-meeting on several occasions, at which committees were appointed to prepare full information and statistics. Prominent citizens of the State from various sections manifested a lively interest in the scheme, and matters were assuming a definite shape for the commencement of the school, as shown by the payment of the amount subscribed by the city of Raleigh, the purchase of a site, etc., when certain events gave a different and broader scope to the work designed to be accomplished.

Two large meetings of the farmers of North Carolina were held in Raleigh, respectively on the 18th and 26th of January, 1887. The first of these meetings, among other things, resolved that the farmers ought to have an agricultural college: and further, that the interest on the Land Scrip Fund should be given for a part of its support. The second meeting, with representatives from forty counties, reiterated the resolution referred to as passed by the convention of January 18, and also considered favorably a proposal of the city of Raleigh to combine the industrial school with the desired agricultural college, offering the funds already in hand, with whatever the Legislature might provide, for such an institution.

After an exciting discussion, a bill for such agricultural and mechanical college became a law in the Legislature of 1887, by a vote of 68 to 19 in the House of Representatives and 29 to 13 in the Senate.

Thus the scheme for the North Carolina College of Agriculture and Mechanic Arts was inaugurated, and the State took a most important and progressive step in behalf of agriculture and mechanical development.

OBJECT AND AIM OF THE COLLEGE.

The mission of the North Carolina College of Agriculture and Mechanic Arts can be gathered from a perusal of sections or a synopsis of the State law and the acts of Congress quoted in this pamphlet. But it will not be amiss to give here a brief statement of what it is designed to accomplish.

Its general purpose is so to teach the principles and applications of the sciences, illustrating sound theory by daily practice, as to make out of its students useful and successful men, instead of mere intelligent drones.

"One of the special objects of the college is to foster a higher appreciation of the value and dignity of intelligent labor and the worth and respectability of laboring men. A boy who sees nothing in manual labor but mere brute force despises both the labor and the laborer. With the acquisition of skill in himself comes the ability and willingness to recognize skill in his fellows. When once he appreciates skill in handicraft, he regards the workman with sympathy and respect."

The Jews, in scriptural times, taught each boy a trade, in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time, in this and other countries, have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such instructions as we are now commencing is calculated to work out such economic results.

In an agricultural and mechanical college the student is taught to know that work is honorable, and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. The labor is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the technical education which will be given by the agricultural and mechanical college and the established colleges and the University of the State. Taking our College as one department of learning, and the above-named institutions as another, their spheres are widely different, and they should be of practical benefit each to the other, and both to the commonwealth.

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction; in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle-raising and the production of dairy products; in its trucking interests, fruit and small fruits; in its ores and minerals, its lumber and hardwoods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, *skill* and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State, as far as it can reach them, in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits, it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an agricultural and mechanical college, in which the very best methods and results can be studied and worked out, practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock raisers, dairymen—men who will be interested in their work, and who will make their work profitable.

The State also has need of good mechanics, carpenters, draughtsmen, contractors, manufacturers, architects, civil and mechanical engineers, and the College will help to make them.

In conclusion, while the College will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure, of the members of the Faculty of the College to take an active part in farmers' institutes, which are accomplishing so much of good in many States in the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands. They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, etc. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, etc.

COURSES OF INSTRUCTION.

The two general courses of study offered in this institution are in Agriculture and in Mechanics.

In the *Freshman year* the work for the students in both courses *is the same*, and consists of Mathematics, English, Physics, Chemistry, History, Horticulture and Agriculture in the recitation-room, and practice work in the field, greenhouse, carpenter-shop and drawing-room.

While it is true that at the beginning of the Sophomore year the two courses divide and the student selects one or the other of the two, yet some studies are common to both through the entire course. In the Sophomore year both have Chemistry, English, Mathematics and History in common, while the Juniors are together in all these but Chemistry, which is not taken by the Mechanical students after the Sophomore year. The Agricultural Seniors do not have Mathematics, but the English and History is continued by all through the Senior year. With the higher classes, therefore, more and more time is devoted to the technical part of the work.

THE TECHNICAL WORK OF THE AGRICULTURAL COURSE.

This work occupies four hours per week of the recitation time of the Sophomore Class, eight hours of the Juniors, and eleven of the Seniors, and all the practice work of these years. In the Senior year the student will be furnished special facilities for pursuing original work in preparing a graduating thesis, which may be selected from original work in either Agriculture, Horticulture, Botany, or Agricultural Chemistry.

We endeavor to keep in view the fact that the course is not intended as a training school for farm laborers, but for fitting young men for intelligent work in Agriculture, either on the practical side in directing the great army of uneducated muscle in the field or greenhouse, or on the more scientific but none the less valuable side as workers in the laboratories of Agricultural Chemistry or Botany.

The manual labor is performed during the practice hours, and is only such as is considered necessary and instructive, and does not consist of mere drudgery, of which most of the students know enough already before their admission. While taught that no labor is beneath the dignity of a thorough farmer when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American agriculture, and thus send them out as *leaders in improvements*, instead of mere followers in ruts of other men's making.

THE TECHNICAL WORK OF THE COURSE IN MECHANICS.

This work occupies three hours per week of the recitation time of the Sophomore Class, seven hours of the Juniors, and eleven of the Seniors, and all the practice work of these years.

This is not a trade school, and it is of course not expected that our students shall necessarily adopt a trade; but if any should desire to do so, the training given here in the principles underlying all mechanical trades, as well as in their application, will make smooth the way and give the right start to all students who can remain but one or two years, preferring then to take up a trade rather than to work on to the graduating degree, which will give them position as civil or mechanical engineers.

An examination of the work for each year, as shown in the table at the end, will give an accurate idea of the qualifications of each student at any given point in the course, whether his purpose may be to adopt a trade, or only to direct with intelligent skill operations of his own business, or to seek employment in the highest branches of engineering.

The graduating thesis shall have for its subject some part of the work in Mechanics, to be approved by the Professor of Mechanics and Applied Mathematics.

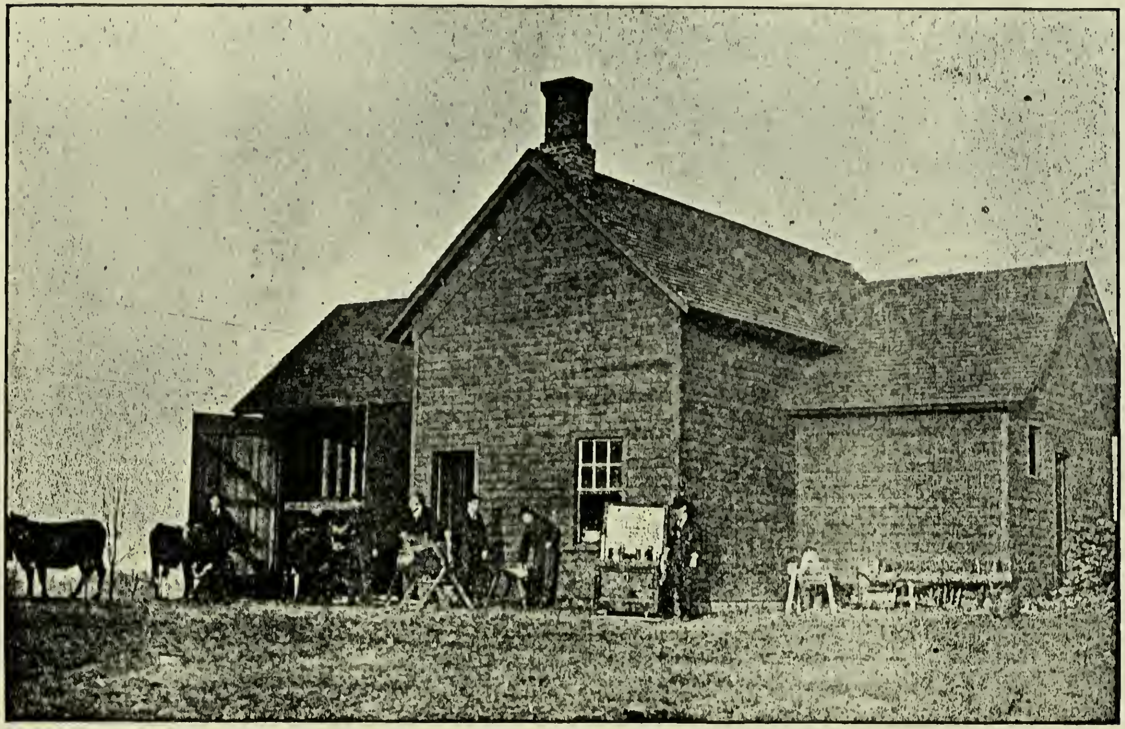
POSTGRADUATE WORK.

A line of postgraduate work extending through one year will be provided for both of the college courses. In the Agricultural course this postgraduate work will lead to the degree of Master of Science, and in the Mechanical course to the degree of Mechanical Engineer.

The studies in each will be carefully adapted to the expansion and development of the special lines of study selected by graduate students for a professional calling.

SPECIAL WORK.

Special students, otherwise qualified, may be admitted to courses already provided in the College, provided that no inconvenience result to the members of the regular classes.



BARN AT EXPERIMENT STATION.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. B. IRBY, M. S.
ASSISTANT, F. E. EMERY, B. S.
SUPERINTENDENT, B. S. SKINNER.

It is the purpose of this department to give such theoretical and practical instruction to the students as will enable them to act in the capacity of superintendents of farms after graduation, or to manage their own farm property. It is desired to give them the benefit of the underlying principles and the practice in connection, so that the two will be so intimately associated that they cannot think of the first without knowing how to apply the second. Inasmuch as the students select their course only after the first year, the technical training in the Freshman year is limited.

The students have the following course in the lecture-room and field:

The Freshman Class has three months course in "First Lessons in Agriculture." This is supplemented with short lectures and illustrations. This class-room instruction, with field practice in laying off and constructing ditches and cultivating crops, constitutes their work in the Agricultural Department.

In the Sophomore year they have lectures on hygiene of the farm, ditching, description and use of farm implements, cultivation and harvesting of crops, manipulation of feed-stuffs, etc. They also have a short course in physiology and comparative anatomy. The class has practice work throughout the entire year.

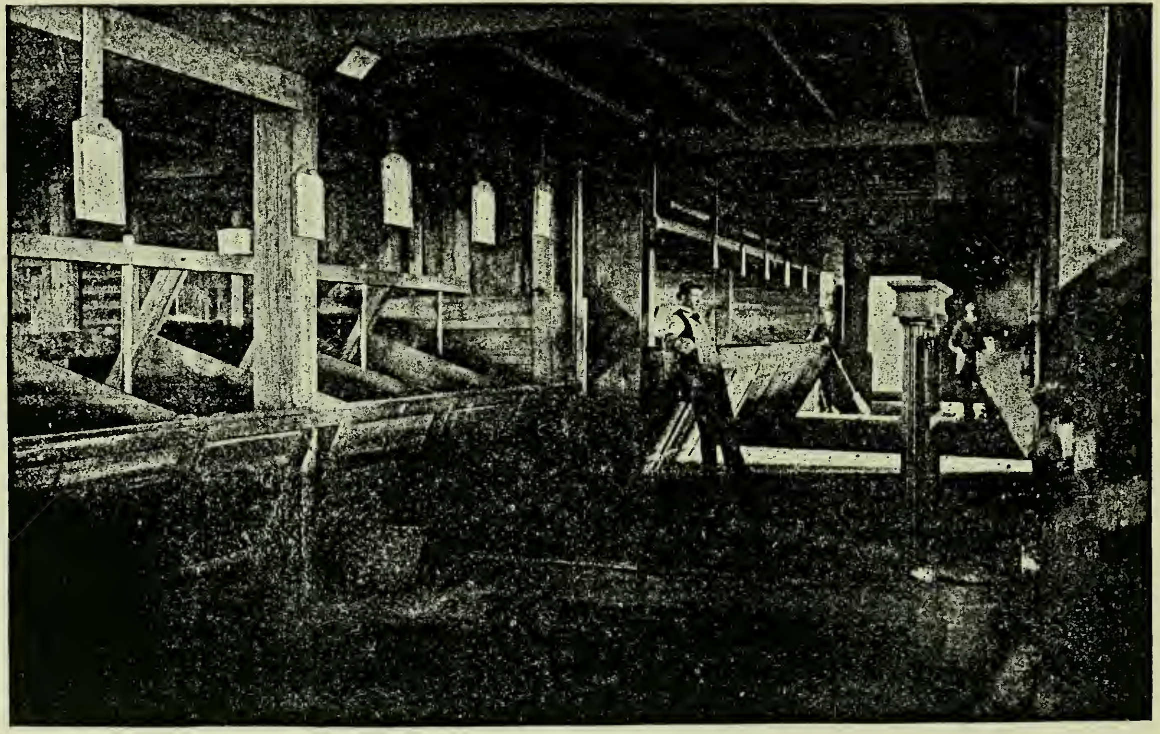
The Junior Class has zoology, lectures on veterinary science and dairying. The latter includes selection of dairy herds, development of herds, calculation of feed rations and feeding milch cows; milking, ripening cream, use of separator, churning, cheese making, list of apparatus used in the dairy and creamery, keeping records and tests of cattle, calculations of milk values from tests, location of permanent pastures and rotation of crops best suited for dairy herds in North Carolina. Practice work consists of all dairy operations from feeding and milking the cow to selling the butter in the market.

The Senior Class has tile drainage—theoretical and practical. The students are given not only the theory in the class-room, but practice in everything from reconnoitering the ground to laying the tile, use of surveyor's level and plotting the ground, making estimates, digging the ditch, laying the tile, etc. A course in Meteorology and its relations to the farm is given.

They have, too, a course of lectures serving as a summary for the instruction of the four years on farm economy, plan of the work, special farming, diversified farming, growing supplies at home, organizing the farm, arrangement of buildings, location of fields, care of stock, including horses, cattle, sheep and hogs.

Science as applied in feeding, nutritive and manurial value of feed-stuffs, care and use of manures and commercial fertilizers, rotation of crops and renovation of soils, etc. The class has practice work the entire year; this, with a thesis for commencement, completes the course.

The *practice* work for the four years is looked upon as being instructive in its nature and, of course, is not paid for; but any regular work that the students perform on the farm is paid for at the rate of seven cents per hour. Both practice and regular work is done under the direct supervision of the Professor of Agriculture and the Superintendent. The money paid for their regular work enables the students to defray a part of their expenses, and at the same time the lessons they learned in the class-room are impressed on them. The ability of doing a thing consists in the *doing*, thus lasting impressions are made on their minds in a prac-



CATTLE STALLS AND TABLETS FOR RECORD OF FEED.

discussions they show plainly that they have assimilated what they heard in the lecture-room and what they read in the many agricultural journals sent to their reading-room. One idea is brought before the student continually in all instruction, and that is to be *practical.*

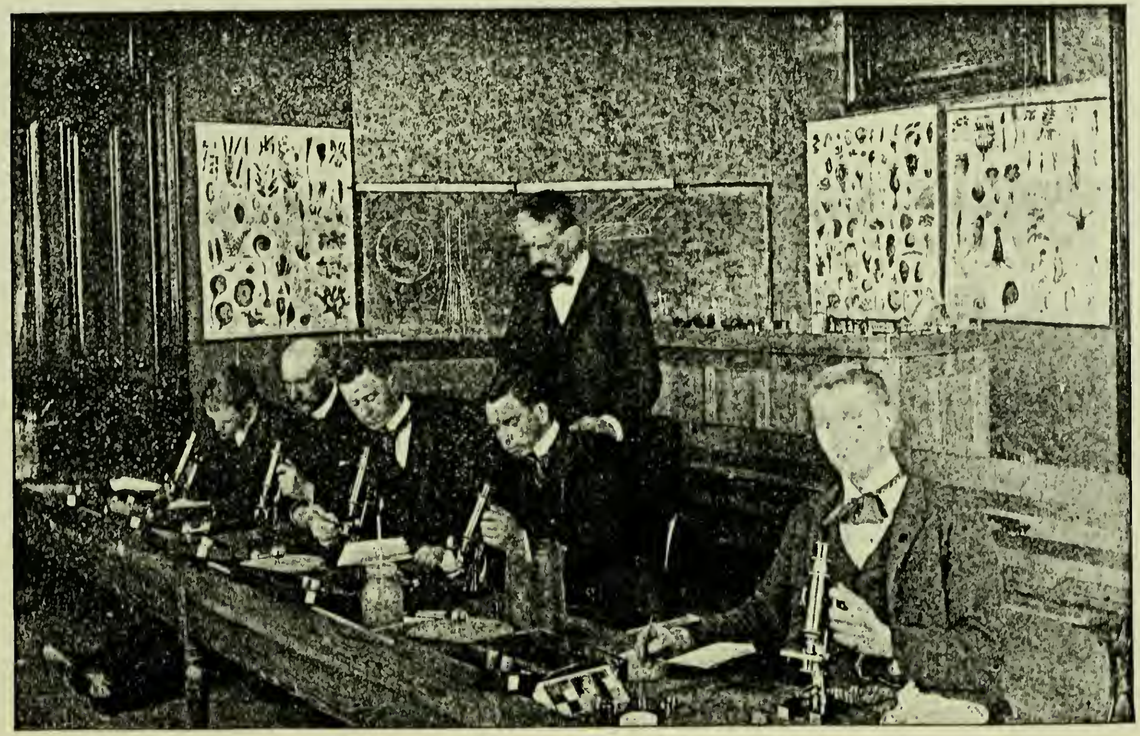
DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROFESSOR MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but systematic Botany will also receive due attention. It will not be taught by the mere memorizing of dry definitions, but by a practical study of the characteristics of plants upon which classification is founded. The student will prepare a series of progressive schedules of the characters of all parts of plants and flowers from a study of the plants themselves, thus training his powers of observation so that when he comes to the identification of plants for herbarium preservation, he will have no temptation to make "short cuts," as though the name was the only object sought.

The effort will be made to include in the first two years of the course those branches most essential to the Market Gardener, Fruit Grower and Florist, so as to give those students who do not remain longer with us a short practical course. The subsequent years will be devoted to advanced work in Cryptogamic Botany, Entomology, etc.

Those who complete the whole course will receive instruction in all the branches needed by a Professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road working, the construction of horticultural buildings and forest improvement.



HORTICULTURAL LABORATORY.

The new greenhouse at the College and the greenhouse and glass grapery at the Experiment Station, where exotic grapes are grown under glass, furnish means for practical study and illustration.

FRESHMAN YEAR.

Fall Term.—Elementary Anatomy and Physiology of Plants. Lectures on Vegetable Culture—3 hours weekly. Practice work in Garden.

Winter Term.—Laboratory study of plant structure from living forms—2 hours.

Spring Term.—Study of floral forms and identification of native plants—2 hours.

SOPHOMORE YEAR.

Fall Term.—Practice in budding, propagation from seeds and cuttings in nursery and greenhouse. Orchard and vineyard work with Field Lectures—4 hours.

Winter Term.—Advanced work in Structural Botany, with text-book and lectures—2 hours. Practice in greenhouse, root-grafting and pruning in orchard and vineyard—4 hours.

Spring Term.—Zoology of Invertebrates, with special reference to Entomology. Text-books and lectures. Collection and identification of insects, and Laboratory study of grasses—4 hours.

JUNIOR YEAR.

Fall Term.—Physiological Botany (Goodale)—2 hours. Laboratory work in Vegetable Histology, with compound microscope—4 hours.

Winter Term.—Physiological Botany continued, with text-book and lectures on application of principles to Forestry—3 hours. Experimental work in Laboratory, and study of woods and timbers—4 hours.

Spring Term.—Cryptogamic Botany (Bessey)—3 hours. Laboratory study of Cryptogams and Cryptogamic classification—4 hours.

SENIOR CLASS.

Fall Term.—Palæobotany, with text-book (Dawson), and lectures on general Geology and Palæontology—4 hours. Laboratory study of fungi from artificial culture. Preparation and permanent mounting of microscopic objects—4 hours.

Winter Term.—Lectures on Landscape Art, Road-making and Horticultural Construction—4 hours. Microscopic and Experimental work in Laboratory—4 hours.

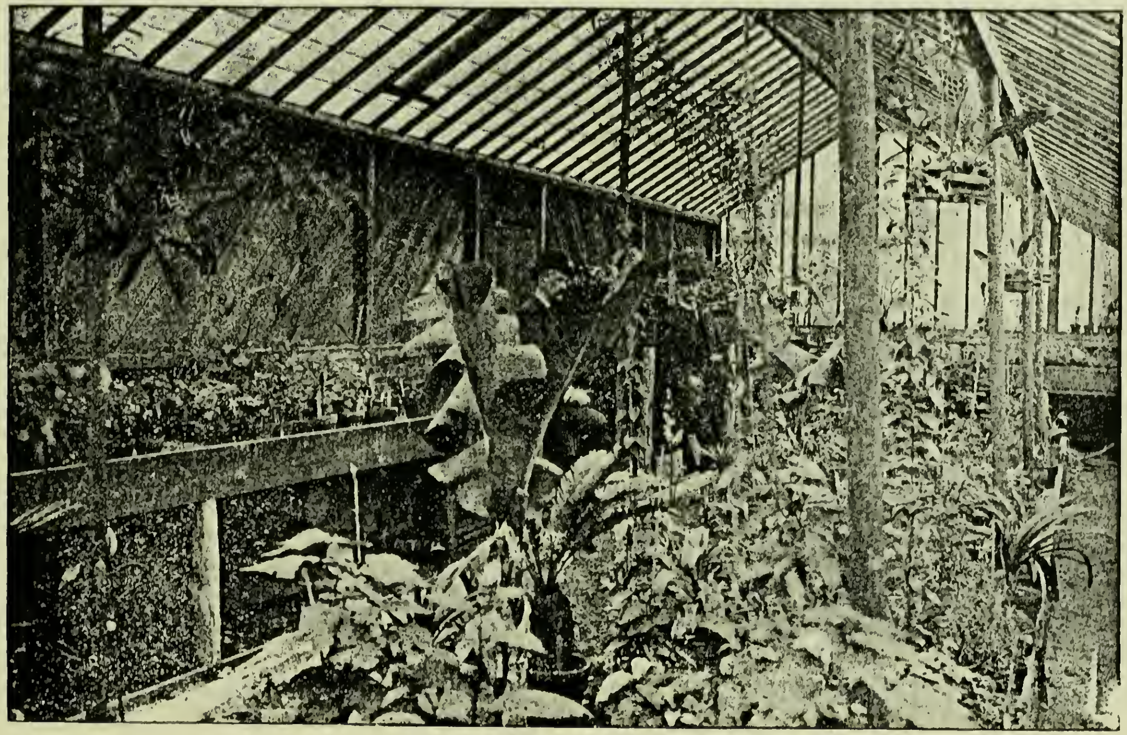
Spring Term.—Lectures on Commercial Floriculture and forcing of flowers, fruits and vegetables under glass; history of garden plants. Experimental work in Greenhouse and Laboratory—4 hours.

In Winter and Spring Terms practice work will be largely elective between Botanical and Chemical Laboratory and work in Agriculture, so that the student may have abundant opportunity for doing good original work in the department in which he proposes to make his thesis.

THESIS.

Students making their thesis in this department must select the subject early in the year, with the advice of the Professor.

In the Junior and Senior years each student will be furnished with a compound microscope and must make a deposit, at the beginning of each year, of three dollars for materials and reagents used, any unexpended balance of which will be refunded at the end of the year. Instruments furnished by the College, but losses and breakage must be made good by student.



GREENHOUSE FOR CLASS IN HORTICULTURE.

In the Freshman and Sophomore years a deposit of fifty cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession will be given special opportunities in the Junior and Senior years to become experts in Greenhouse work and Propagation. The College and Station Greenhouses and Exotic Grapery give particular advantages for this.

POSTGRADUATE COURSE.

The work in this department in postgraduate study for the degree of Master of Science, will consist of general Biological work in Laboratory, and in experimental work in cross fertilization, with a course of reading under the direction of the Professor. Hours by arrangement.

DEPARTMENT OF PURE AND AGRICULTURAL CHEMISTRY.

PROFESSOR WITHERS.

MR. ....

This department occupies all the northeast wing of the first floor of the Main Building, and consists of five rooms, as follows: General Laboratory, Lecture room, Store room, Private Laboratory, and Office.

The Chemical Laboratory is 37 by 19 feet, and is well lighted. It is supplied with fume closets, evaporating baths, drying chamber, blast lamp, and extra tile-covered tables, and has accommodations for fifty-six students, twenty-eight of whom may work simultaneously. The analytical tables are of yellow heart-pine with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus, and has three feet of working space. Each working space is provided with gas, water, a sink, and shelves supplied with reagents.

The Chemical Library contains a carefully selected list of standard text and reference books—including those used by the department—and also the current numbers of the American Chemical Journal, Journal of Analytical and Applied Chemistry, Journal of the Society of Chemical Industry, Journal of the Chemical Society (London), Journal für Landwirthschaft, Fresenius's Zeitschrift für Analytische Chemie, Berichte der Deutschen Chemischen Gessellschaft, and others. This Library has been placed in one of the rooms of the department adjacent to the Laboratory, and the student is encouraged to make free use of it.

The Chemical Museum contains specimens illustrating the work in pure and Agricultural Chemistry. It will be added to from time to time.

Instruction is given in this department during the Fall Term to the Freshman Class and to the Sophomore Class through the entire year. The work is continued by the students in Agriculture during their whole course. While the ultimate aim of the work is towards the applications of the science and the equipment of a student for technical work in chemistry, yet the fact is fully appreciated that this work is most successfully done when based on a broad knowledge of the pure science.

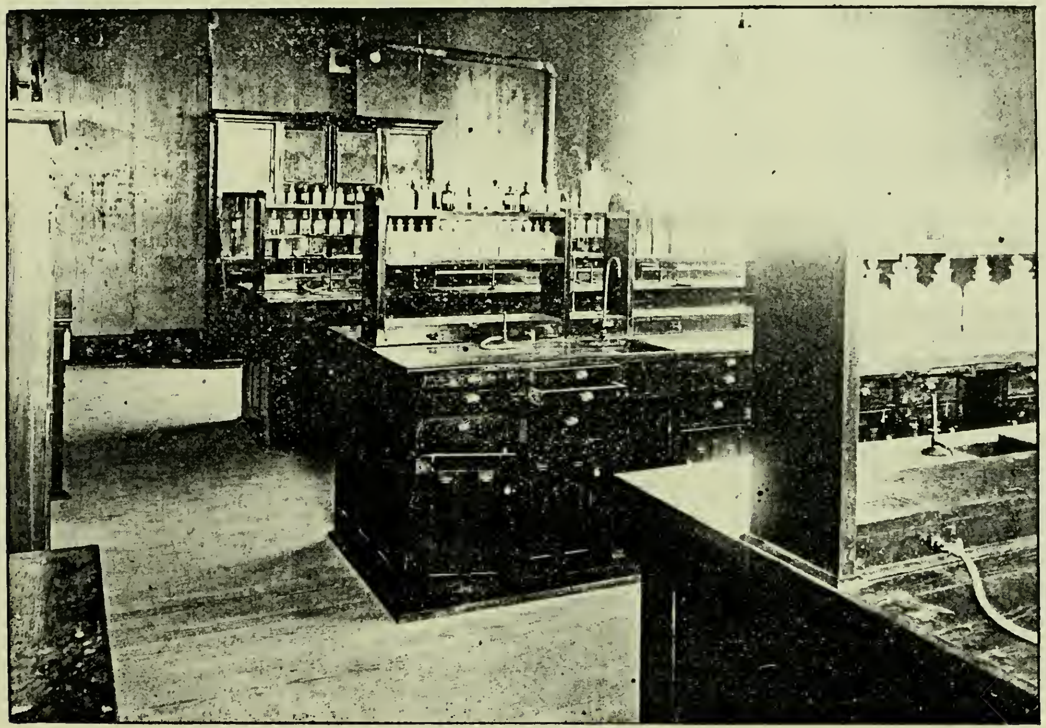
FRESHMAN CLASS.

Elements of Chemistry (Fall, 2).—This course is a brief introduction to general Chemistry and its relation to the air, soil, plant and animal, and is simply preparatory in character.

Text-books: Roscoe's Chemistry Primer, Lupton's Scientific Agriculture.

SOPHOMORE CLASS.

General Chemistry (3).—This work is both descriptive and theoretical, instruction being given by lectures and recitations, accompanied with full experiments in the classroom. The common elements and their principal compounds



CHEMICAL LABORATORY.

are studied, with some of the fundamental principles of the science. Due attention is given to stoichiometry.

General Chemistry Laboratory (3).—In order to be more thoroughly familiar with the subject, the student repeats in the Laboratory for himself the experiments performed in the class-room. The results are recorded for daily inspection.

Text-books: Remsen's Briefer Course and Remsen's Laboratory Manual.

Reference books: Roscoe and Schorlemmer, Richter, Watts' Dictionary.

JUNIOR CLASS.

Agricultural Chemistry (3).—The lectures follow closely Mayer's Lehrbuch der Agrikulturchemie. Attention is given to a consideration of the atmosphere as a plant feeder; the mineral and organic constituents of the plants and their functions; the composition, origin and properties of the soil and its relation to the plant; means of improving the soil by mechanical means, amendments and fertilizers; the preparation of manures and composts; green manuring; the composition of fodder and the different means of curing and preserving; animal chemistry; stock-feeding; chemistry of butter, of milk, etc.

Reference books: Storer's Agriculture, Johnson's How Crops Grow and How Crops Feed.

Qualitative Analysis (6).—The student is familiarized with the general and individual re-actions and the equations involved. In addition to the identification of unknown substances the student is expected to know the reasons for the different steps in an analysis. To test this knowledge frequent recitations are held.

Text-book: Caldwell's Chemical Analysis.

Reference books: Fresenius, Prescott and Johnson.

SENIOR CLASS.

Organic Chemistry (6).

Text-book: Remsen.

Reference book: Richter, Watts, etc.

Quantitive Analysis (8).—After the student makes some acquaintance with volumetric and gravimetric methods, he is given practice in the analysis of muck, marl, feeding-stuffs, water, fertilizers, milk, butter, and such other work as the agricultural chemist is called upon to perform.

Reference books: Caldwell, Cairns, Blair, Fresenius, Crooke's Methods of the Association of Official Agricultural Chemists, etc.

ELECTIVE AND POSTGRADUATE

courses are open to Seniors making a specialty of chemistry and to postgraduates in Theoretical Chemistry (Remsen), Organic Chemistry Laboratory (Remsen, Levy and Cohen), and in advanced agricultural analysis. The student will conduct some original investigations and prepare a thesis embodying the results of the same.

The Chemical Seminary will meet fortnightly for the discussion of the journals and other chemical subjects.

DEPARTMENT OF PHYSICS.

Instruction in Elementary Physics is given to the members of the Freshman Class during the Winter and Spring Terms, attention being given to the consideration of Energy, Force, Properties and Constitution of Matter, Gravitation, Friction and Machines, States of Matter, Heat, Light, Sound, Magnetism and Electricity. The recitations are illustrated by full experiments in the class-room.

Text-book: Gage's Elements of Physics.

DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

PROFESSOR RIDDICK.
MR. PRITCHETT.
MR. PARK.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering. In the class-room work of this department it will be necessary to use text-books to a great extent, but they will always be supplemented by explanations and lectures.

The course, as laid out, is intended to give to those who complete it such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments, and in the management of machinery, as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose. No specialty, as yet, is made either of mechanical engineering, civil engineering or architecture; but those fundamental principles which underlie, and form the bases of all, are taught to the student.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood. His greater or less degree of skill will, of course, depend largely upon his natural ability.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Mechanics.—This includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys, in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

As far as possible, this subject will be made clear and plain by explanations in the shop building.

Buildings and Building Materials.—This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts, and the correct methods of making and fixing each in its relations to the others. They are also taught to make estimates and bills of materials.

JUNIOR YEAR.

Steam and Steam Machinery.—This is a study of engines and boilers, and steam-plants in general. A text-book will be used. Work will be done with the engine and boiler. The students will learn to fire the boiler and tend the engine.

Graphic Statics.—The student learns to determine the stresses in framed structures, bridge and roof trusses by the graphic methods. This study is a prelude to the subject of Bridges and Roofs in the next year, and is taught entirely by lectures.

Surveying.—During the Winter the students will confine their attention to a theoretical study of the principles of surveying, and in the Spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land. They will in this way become thoroughly familiar with the theory and practical use of surveying instruments.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—The students are here taught the analytical methods of determining the stress of the various members of a roof or a bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures.—During the year one hour per week will be devoted to lectures upon the Strength of Materials and Designing, with special attention to the Designing of Structures and Plants for particular purposes. And, if possible, some time will be devoted to Water-works, Sewerage, etc.

FIFTH OR GRADUATE YEAR.

This department offers facilities for one year of post-graduate work in Mechanical Engineering, leading to the degree of M. E. The course is open to our own graduates, and those of other institutions with equivalent requirements for graduation. The course of study is to some extent flexible; admitting of slight changes to suit the needs of the individual student. It consists, in general, of a more thorough study of Mechanics of Materials, Mechanics of Machinery, and Machine Design, including designs for shops and power-stations; Steam Heating and Ventilating in detail, and the elements of Marine and Railway Engineering. Before graduation, each student will be required to prepare a paper containing a critical review of some mechanical construction, or a complete mechanical design.

PRACTICAL WORK IN THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

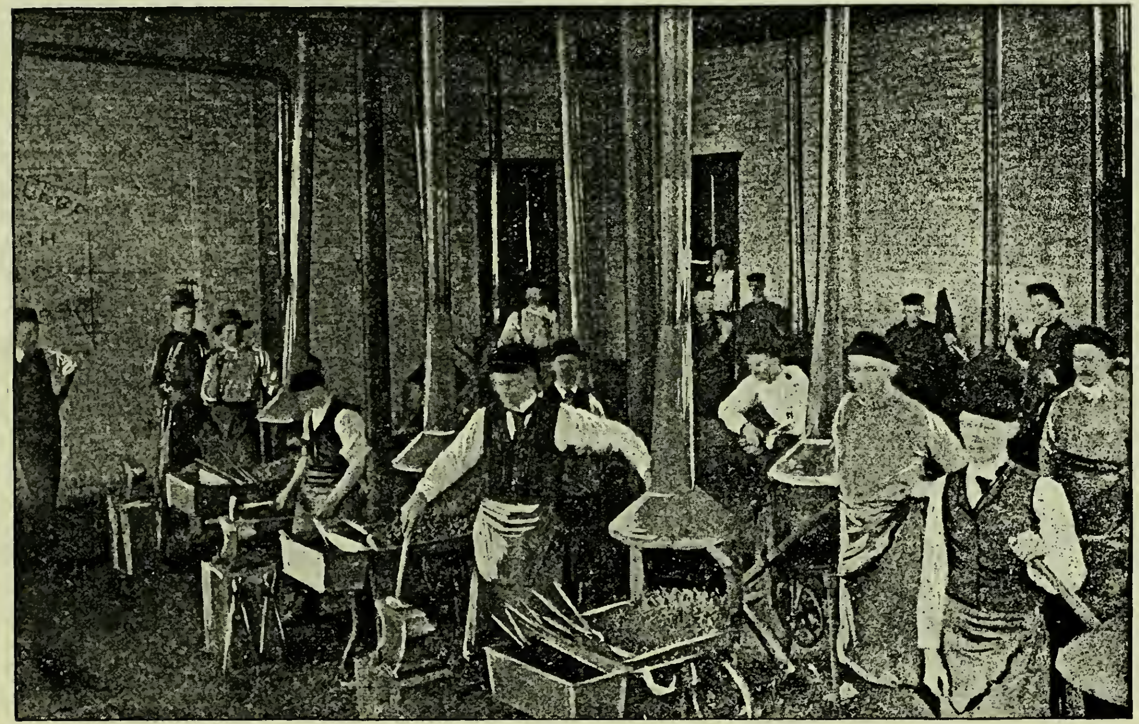
During the Freshman year the students in both the Agricultural and Mechanical Courses work four hours a week in the carpenter shop. The work consists of a number of exercises by which the student is taught the use of carpenter's tools. These exercises are carefully graded, beginning with the simplest shapes and increasing in difficulty as the students become more skilful in the use of tools. Towards the end of the year's work each student is required to make some article which will test his workmanship, and at the same time be useful. Each student is furnished with a set of carpenter's tools, which he is required to keep in order and return to the Professor or his assistant at the end of the year's work.

The work of the Sophomore Class in the Forge Shop consists of a number of graded exercises by which the students are taught to work in iron and steel. The students begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools. They are then taught how to build and tend the fire, and to heat iron. When they can do this, they forge simple shapes out of hot iron. They learn to "bend," to "draw," to make "scarfs," and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they are taught to work with steel and to temper it, and are given a short course in tool-making.

The course of work in the Forge Shop for the students in the Agricultural Course is shorter than that for the mechanical students, and is specially laid out for them.

During the Fall and Winter terms, the Junior Class works ten hours per week at wood-turning and pattern-making. They work with each machine in turn and learn to use all well. They take turns in tending to the machinery, shafting and belting, and are given a course in pattern-making the last part of the year.



MECHANICAL CLASS AT FORGE WORK.

The students of the Junior Class take turns in firing and tending to the boiler, and also in tending to the engine. Whenever the class is at work in the shop, one of the students is firing and tending the boiler and another is looking after the engine.

In addition to the regular course of exercises, the students of the Junior Class are called upon to make boxes, cupboards, shelves, drawing-boards, etc., and to do such work as may be necessary for the department or the College.

During the Senior year the students work ten hours a week in the machine-shop, where, under the supervision of skilled practical machinists, they learn to use the machines and tools ordinarily found in a machine-shop. Here, as in the other shops, the work consists at first of graded exercises, designed to teach, as thoroughly as possible, the use of each machine. When the students have learned to use these machines with a reasonable amount of skill, they are put to work upon some piece of machinery which will be of use to the College. During the Winter and Spring terms of last session, the class, in addition to their work on the exercises, built a small automatic cut-off engine. During this session it is proposed to allow the students, individually or in pairs, to select some piece of machinery, make the drawings and necessary patterns, and construct the machine, receiving from the instructor such assistance as may be necessary.

It must be remembered that all the exercises in the different shops are designed simply for the instruction of the students. Nothing is made for sale.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on all the necessary dimensions and notes.

This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

In the beginning of the course the instructor explains to the class the meaning of the various conventional signs on the drawings, and also shows each student how to "lay out" his work from the drawing. As the students acquire facility in reading the working drawings, and skill in "laying out" work and handling tools, the exercises are made more difficult.

When an exercise is given to the class, the instructor explains where and how the work illustrated by that particular exercise is used in practical construction.

DRAWING.

During the Freshman year all the students in the College take a course in drawing. The drawing of this year consists of a little free-hand sketching, a course in lettering, and the elements of mechanical drawing.

After the Freshman year each student taking the Mechanical Course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and details of work and machinery already built and set up. The students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked, lettered and finished as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior Class he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shop are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making objects of drawings that already exist.

CLASS IN MECHANICAL DRAWING.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

EQUIPMENT.

The equipment of the Mechanical Department is as follows:

A commodious two-story brick shop-building, on the first floor of which is the machine-shop, 30 x 40 feet; forge-shop, 30 x 40 feet; a recitation-room, 23 x 24 feet, and a wash-room, 10 x 23 feet. On the second floor is the wood-turning shop, 30 x 40 feet; carpenter shop, 30 x 40 feet; drawing-room, 23 x 25 feet, and a small office.

The machine-shop is equipped with a 25 horse-power Woodbury automatic cut-off engine which furnishes the motive power for the machinery throughout the building. A planer, milling machine, two engine lathes (13″ and 14″), a drill press and emery wheel, also several vises and sets of tools for doing hand work.

The equipment of the wood-turning shop consists of ten 12-inch swing lathes, one saw and dado machine, one 20-inch pony planer, one mortising and boring machine, one 30-inch band saw, one 6-inch "sticker," one grindstone, one mitering machine, and four benches equipped with iron vises and all necessary hand tools for pattern-making.

Each lathe is equipped with the necessary turning chisels and tools.

The forge-shop is fitted up with twenty forges. Each forge is equipped with a water-tank, shovel and poker. For each forge there are provided the following tools: an anvil, hammer, steel square, tongs and handy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels for general use in the shop.

The carpenter shop is equipped with thirty carpenter-benches and all the necessary tools for each bench.

Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench.

These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him a jack-plane, ¾-inch chisel, ½-inch chisel, ¼-inch chisel, and a slip-stone. These tools are used only by the student to whom they are issued, and he is held responsible for them.

In addition to the shop building there is a boiler house equipped with a 30 horse-power boiler, which furnishes steam to the engine in the machine-shop, and also to a small duplex Worthington pump which supplies water to the various buildings on the grounds.

The drafting room is furnished with thirty desks, and with each desk there is a T-square, set of instruments, rules and triangles. Each student is furnished a drawing board.

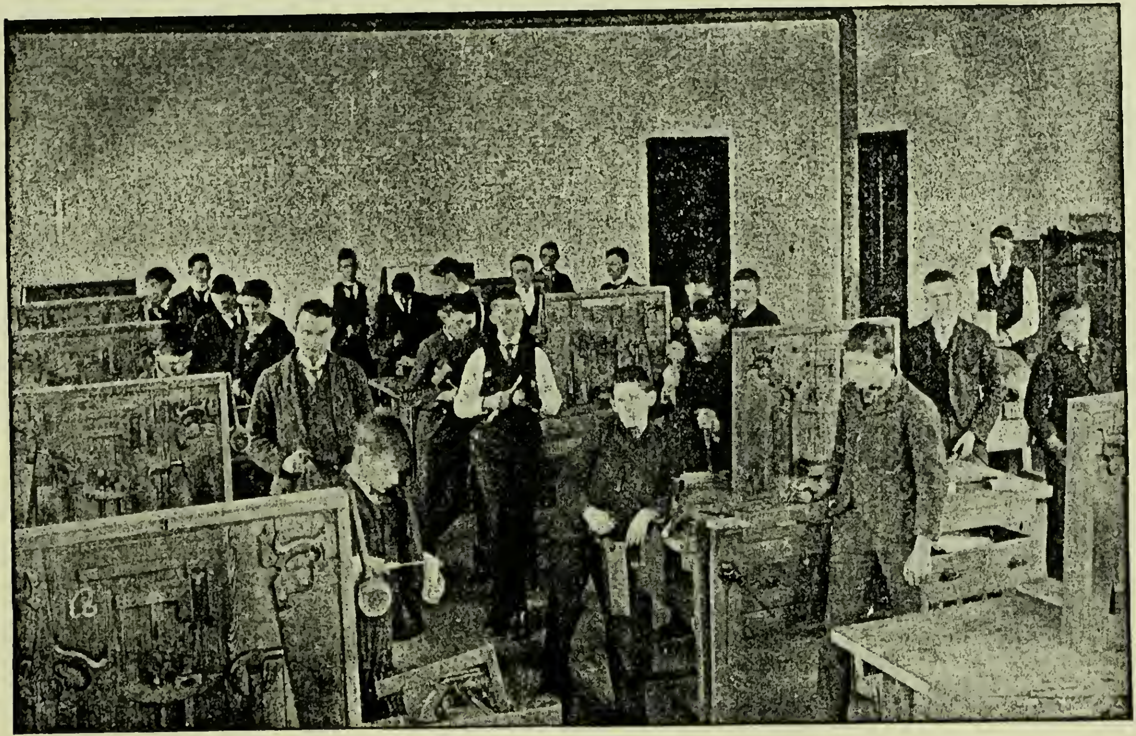
In addition to the above, the College owns a transit, Y level, compass, rods, chains, etc., a Thompson's Improved Indicator, Polar Planimeter, and other instruments used in illustrating the work of this department.

DEPARTMENT OF MATHEMATICS.

ADJUNCT—PROFESSOR YATES.

It will be the aim of this department to give the young men a thorough and practical knowledge of Pure Mathematics. All students will be required to do as much supplementary work as time will permit, for no principle is well learned by a pupil and thoroughly fixed in his mind till he can use it.

The course in Mathematics begins in the Freshman year and is completed by the students in the Mechanical Course



CLASS IN CARPENTRY.

at the close of the Winter Term of the Senior year. Agricultural students drop the study of Mathematics after having finished Trigonometry.

FRESHMAN CLASS.

During this year it is our purpose to complete Arithmetic and Algebra to quadratic equations. The young men are required to solve the problems by neat and intelligent methods, and are kept free from set rules and formulas.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

SOPHOMORE CLASS.

Applicants for this class will be examined on the work of the Freshman year.

This class completes Algebra and Geometry. Every effort is directed to lead students to pursue these studies without feeling that they are characterized by arbitrary laws and mysterious processes; in other words, to work by reason and not by rules and memory.

In the study of Geometry no efforts are spared to compel students to think and invent new methods and demonstrations.

JUNIOR CLASS.

The work of this class will begin with the study of Trigonometry, followed by Analytical Geometry, which will be completed by the close of the session.

Much exercise work will be done, since it is only by solving problems which require some degree of original thought, that any real mastery of the study can be gained.

SENIOR CLASS.

This class will begin Calculus at the beginning of the session and complete the same by the end of the Winter Term.

During the Spring Term the hours heretofore devoted to Pure Mathematics will be given to the Department of Mechanics.

ENGLISH DEPARTMENT.

PROFESSOR HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and with ease, and be an intelligent and appreciative interpreter of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is gradually adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

Four Recitations a Week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text-books: Meikeljohn's Grammar, Lockwood's Lessons in English. Parallel for 1893-'94: The Sketch-Book, Scott's Marmion, some of the De Coverley Papers.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by

a course in the elements of Rhetoric. In this course in Rhetoric, special attention will be paid to the analysis of themes and their subsequent elaboration step by step. Much of this work will be done in the lecture-room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text-books: Lounsbury's English Language, Clark's Practical Rhetoric. Parallel for 1893-'94: For class-room, selections from De Quincey, Some Native Lyrics.

JUNIOR CLASS.

Three Times a Week.

The first part of this year will be spent upon Logic and Logical Praxis. Afterwards, the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it. A short course in Linguistics will also be given.

Text-books: Jevon's Logic, Gregory's Practical Logic, Genung's Rhetoric and Rhetorical Analysis, Lectures. Parallel for 1893-'94: Macauley's Chatham, Studies in Garnett's English Prose from Elizabeth to Victoria.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. But some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for 1893-'94: Marlowe's Faustus, Shakespeare's Merchant of Venice, and Cæsar, will be assigned for class work.

Text-books: Fiske's Taine's Literature, Hawthorne and Lemmon's American Literature, Lectures on Poetry, Garnett's and Thayer's Selections, Browne's Versification, Hudson's or Rolfe's Editions of Shakespeare.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT—PROFESSOR YATES.

All students in the Sophomore Class will be required to take single-entry bookkeeping during the Spring Term.

The work in the text-books will be supplemented by numerous original examples and sets for practice.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLIDAY.

In this course students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and ·modern. They are taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort is directed towards teaching students how to read and to think, rather than to recite.

Instructions will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided in outside readings on special subjects, for which the College Library will afford ample conveniences.

LOCATION.

The original College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from its corporate limits, the site is, in all respects, a suitable one. The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about four years, and the land is being brought up mainly by judicious vegetable manuring. Eighteen acres adjoining the College on the west have been purchased, in addition to the original tract, and still more land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake county, and the brownstone from Wadesboro, Anson county.

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, etc., are well arranged.

A carefully planned brick workshop, two stories high, has been erected and in use since September, 1890. This building contains a machine-shop, forge-shop, woodworking-shop, carpenter shop, class-room, office and wash-room, and is equipped for thorough work in every particular.

A model barn has been erected, containing silos, stables, cow-stalls, etc., of the most approved description. These will be available for purposes of instruction during the next session, as well as the equipments of the Experiment Station farm near by.

In the basement of the main College building every convenience has been provided for housekeeping, and no facility is lacking in the boarding department. The cost of table board alone will, under no circumstances, exceed nine dollars per month, and it is in contemplation to arrange for a mess system, under which students, assisted by a steward and well equipped kitchen, store-rooms and dining-hall, all provided by the College, may regulate their own expenses, and by co-operation perhaps effect some furthur reduction of cost.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, with convenient bath-rooms on the second floor.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

REPORTS.

Reports of scholarship and deportment are sent at the end of each term. In the grading, 100 is the maximum, 90 or over is considered excellent, 80 or over creditable. To pass, the student must make 60. In calculating the average for the term, each subject counts equally.

HONORS.

Students whose average for the three terms is 90 or more will have their names inserted in the catalogue on the honor roll.

On graduation the student in the course in Agriculture whose average is highest will be awarded first distinction in the course in Agriculture, and the student whose grade is next will be awarded second distinction. In the same way first and second distinctions in the course in Mechanics are awarded.

The students attaining first distinction in the two courses will be given a place on the Commencement stage, together with three others selected by the Faculty.

DEGREES.

Two Baccalaureate degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science in Agriculture (B. S. Agr.). Upon those who, through four years, have done likewise in the Mechanical course the degree of Bachelor of Engineering will be conferred.

To postgraduates who have successfully passed examinations after a supplementary year's work the degree of Master of Science will be given in the Agricultural Department, and the degree of M. E. in the Department of Mechanics. The fee for Baccalaureate Diploma is $3, and for Diploma for M. E., or M. S., $5.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

A majority of the students are consistent church members, and have united in a Young Men's Christian Association, which meets once each week. Its meetings are well attended, and exert a most beneficial influence.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

There is also an Agricultural Society, which is full of life and energy.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

Reference libraries for the use of students have also been placed in the Departments of Agriculture, Horticulture, Chemistry, and Mechanics.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour.

PRIZES.

A gold medal of the value of ten dollars will be given to the Freshman student who most distinguishes himself in the agricultural work, and a second medal (or the money value thereof, ten dollars) to the student who, in addition to his class work, earns most money by his skill in agricultural labor outside, and a third medal (or the money value thereof, five dollars) to the student who, in addition to his class work, earns the next most money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to strict account for them, since, if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through two entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants must be at least fourteen years of age; must furnish evidence of good moral character and physical development; must understand the forms and laws of their *own language fairly well*, and must be familiar with *arithmetic*, including the practical rules of the same, through fractions, and have a fair knowledge of *Geography* and *State history*.

MODE OF ADMISSION.

On the second Thursday in July and September, or such other days as may be decided on by the County Boards of Education, applicants (said applicants to be restricted to the provisions of section 8, chapter 410, Laws of 1887*) for admission to the College will present themselves before the County Superintendent of Education, and submit to an examination by written questions which will be prepared and furnished by the President of the College to the said Superintendent, who is requested to make sure that candidates receive no help in their examinations.

The Superintendent will please forward all completed examinations to the President of the College *without delay*, in order that there may be sufficient time for their careful perusal by a committee of the Faculty appointed for that duty. After such perusal the County Superintendent will be promptly informed which papers meet the College requirements, and he, with his Board of Education, will, as soon as possible, select their appointees from the successful candidates and issue certificates to as many as their county has members of the House of Representatives. All candidates so chosen will be notified of their appointment, and must present themselves at the College at such time as may be designated by the President.

Entrance examinations will be held also at the College on the two days preceding the opening day, and also on the following Tuesday, and after this at other times by special appointment. These will be held at the following hours: English, 9 A. M.; Mathematics, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M.

Examinations for conditioned students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report to the President of the College at once.

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*See section 8 on page 50 of this Catalogue.

Students who have passed the examinations for admission or for advancement to a higher class will report to the Registrar for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to its rules (a printed copy of which will be furnished him), and to a diligent performance of his duties.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever service is not held in the College building.

Each occupant of a dormitory will be expected to keep his room, or section of a room, in good order and ready for inspection at any time.

CLOTHING, ETC.

No uniform suit is required. Each student should bring a bag in which to send washing to the laundry, and must make out washing-lists on blanks which will be furnished by the Matron, who will see that all articles delivered to her will be safely handled and returned. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm or in the workshop; in any event, a pair of overalls for such work.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost.*

BOARD AND LODGING.

Board and lodging will be furnished all county students at $9 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $9 per month and lodging as below stated.

Each student living in the College must bring with him a change of sheets and pillow-cases and four towels, plainly marked.

It is understood that none except county students are expected to lodge and board in the College buildings. There not only is no objection, but it may be more convenient and desirable that regular pay students obtain board and lodging outside the College building—such boarding places to be subject to the approval of the Faculty.

Three well-built brick dormitories have been erected near the main College building, and more will be added. Each of these buildings will give comfortable and wholesome lodging to twenty students, and if these, with the original rooms provided in the main College building, do not suffice for the needs of the coming year, additional outside accommodations will be provided.

At a meeting of the Board of Trustees held in June, 1893, the price of board was fixed at $8 per month instead of $9. This will make the total cost for county 'students $93.50, and for other students $123.50.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1. Tuition free.	
2. Board, at $9 per month, per session 9½ months	$ 85 50
3. Washing, at 75 cents per month	7 50
4. Fuel and medical attendance, but not medicine, for entire session	10 00
Total	$103 00

II. FOR OTHER STUDENTS.

1. Tuition per session	$ 20 00
2. Board, at $9 per month, 9½ months	85 50
3. Washing, at 75 cents, term 10 months	7 50
4. Books, fuel and medical attendance, but not medicine, for entire session	10 00
5. For lodging in College building, room, furniture, bedding, etc	10 00
Total	$134 00

Each student must also deposit, on entering, a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Each student in Chemistry must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year. These breakages are seldom over fifty cents per year for each hour per week spent in the laboratory.

For deposit in Horticultural laboratory see that department.

All students must furnish their own oil, lamp chimneys, books, stationery, drawing pencils, thumb-tacks, and medicines, and arrangements will be made for them to get these at lowest cost.

ACTS OF LEGISLATURE AND CONGRESS IN RELATION TO THE COLLEGE.

The act under which the College was established became a law on the 7th day of March, 1887, and reads as follows:

An Act Supplemental to Chapter 308, Laws of 1885, Entitled "An Act to Establish and Maintain an Industrial School."

The General Assembly of North Carolina do enact:

Section 1. That the Industrial School provided for in chapter 308, Laws of 1885, shall be denominated "The North Carolina College of Agriculture and Mechanic Arts," and shall be located on the lands offered to be donated, in accordance with the provisions of said law, by R. Stanhope Pullen, of Raleigh, Wake county, lying west of and near the city of Raleigh.

Sec. 2. The leading object of this College shall be, without excluding other scientific and classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

Sec. 3. The management and control of the said College and the care and preservation of all its property shall be vested in a Board of Trustees, to be composed of the Board of Agriculture of North Carolina and five other persons, who shall be appointed by the Governor, by and with the consent of the Senate, who shall have power to appoint its President, instructors and as many other officers or servants as to them shall appear necessary and proper, and shall fix their salaries and prescribe their duties. They shall also prescribe rules for the management and preservation of good order and morals at the said College as are usually made in such institutions and are not inconsistent with the Constitution and laws of the State: have charge of the disbursement of its funds, and have general and entire supervision of the establishment and maintenance of the said College. And the President and instructors in the said College, by and with the consent of the said Board of Trustees, shall have the power of conferring such certificates of proficiency or marks of merit as are usually conferred by such colleges: *Provided*, that the Board of Trustees shall be composed half of each political party.

Sec. 4. The certificate of indebtedness of this State for one hundred and twenty-five thousand dollars, issued for the principal of the Land Scrip Fund to the Trustees of the University of North Carolina, and bearing interest at six per cent per annum. shall be transferred on the thirtieth day of June, eighteen hundred and eighty-eight, or as soon thereafter as it shall appear that the Agricultural and Mechanical College is ready to receive the interest on the Land Scrip Fund, and that the principal of the fund will not in any way be compromised by such a transfer to the said Board of Trustees for the benefit of the said North Carolina College of Agriculture and Mechanic Arts, and the interest thereon shall thereafter be paid to them by the Treasurer, semi-annually, on the first day of July and January of each year, for the purpose of aiding in the support of the said College in accordance with the provisions of the act of Congress, approved July 2, 1862, entitled, "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and mechanic arts."

SEC 5. That the Directors of the North Carolina State Penitentiary shall be required to furnish all brick and stone requisite for the erection of the necessary buildings of the said College, and to furnish convict labor for preparation of the grounds and the foundations, the erection of the said buildings, and for such other purposes in connection with the establishment of the said College as they may be able, such material and labor to be free of charge to said College: *Provided*, that the work required of the Penitentiary shall not interfere with any contracts upon which the Penitentiary may be engaged. and that the work by the Penitentiary shall be limited to two years from date.

SEC. 6. That the Board of Agriculture shall turn over to the Board of Trustees of said College, as provided in this act. to be applied to the establishment, maintenance and enlargement of the said College, all funds, land, material and other property which may have accumulated in their hands, for the establishment of an Industrial School, under chapter 308 Laws of 1885, and annually thereafter the whole residue of their funds, from licenses on fertilizers remaining over and not required to conduct the regular work of that department. The Agricultural Experiment and Fertilizer Control Station, already established under the management of the said Board of Agriculture, shall be connected with the said College, and the Board of Agriculture may turn over to the said Trustees, in whole or part, for the purposes of said College, any buildings, lands, laboratories, museums or other property which may be in their possession, as in their judgment may be thought proper. The said Board of Trustees are empowered to receive any donations of property, real or personal, which may be made to the said College of Agriculture and Mechanic Arts, and shall have the power to invest or expend the same for the benefit of said College. The said Board of Agriculture shall have power to accept, on behalf of this State, donations of property, real or personal, and any appropriations which may be made by the Congress of the United States to the several States and Territories for the benefit of Agricultural Experiment Stations, and they shall expend the whole amount so received for the benefit of the aforesaid Agricultural Experiment Station, and in accordance with the act or acts of Congress in relation thereto.

SEC. 7. The use of the three hundred acres of land, more or less, known as the Camp Mangum tract, belonging to the State of North Carolina, and situated one-half mile west of the State Fair grounds, is hereby given to the said Board of Trustees for the benefit of said College of Agriculture and Mechanic Arts, of the Experiment Station connected therewith.

SEC. 8. The Board of Trustees shall admit to the benefits of the said College, free of any charge of tuition, upon proper evidence of good moral character, and of their inability or the inability of their parents or guardians to pay their tuition, a certain number of youths, to be determined by them, not to be more than one hundred and twenty, and shall apportion the same to the different counties applying, according to their relative number of members in the House of Representatives of North Carolina. The said Board are hereby empowered to make the necessary regulations for carrying this into effect and for the admission of other students.

SEC. 9. Every student in this College of Agriculture and Mechanic Arts shall be required to take a course of manual training or labor, together with the other courses of study and exercises, as the Board shall direct.

SEC. 10. All laws and sections of laws in conflict with this act are hereby repealed.

SEC. This act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this the 7th day of March, 1887.

THE LAND SCRIP ACT.

The Land Grant Act of the Congress of the United States, passed in 1862, to promote the establishment and provide for the maintenance of agricultural and mechanical colleges in the various States of the Union:

AN ACT DONATING PUBLIC LANDS TO THE SEVERAL STATES AND TERRITORIES WHICH MAY PROVIDE COLLEGES FOR THE BENEFIT OF AGRICULTURE, MECHANIC ARTS AND MILITARY TACTICS, KNOWN AS THE MORRILL ACT.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there be granted to the several States for the purposes herein mentioned an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, that no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one-quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which the State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, that in no case shall any State to which the land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any State or Territory of the United States; but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents or less per acre: *And provided further*, that not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, that no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from the date of selection of said lands previous to their sales, and and all expenses incurred in the management and disbursement of the moneys which may be received therefrom shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied, without diminution whatever, to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore mentioned provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than .. per centum per annum upon the par value of said stocks, and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 5 of this act), and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of the act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First—If any portion of the funds invested as provided by the foregoing section, or any portion of the interest thereon, shall by any action or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished, and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms whenever authorized by the respective legislatures of said States.

Second—No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third—Any State which may take or claim the benefit of the provision of this act shall provide, within five years, at least, not less than one college as described in the fourth section of this act, or the grant to such State shall cease, and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchase under the State shall be valid.

Fourth—An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State, industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free by each to all other colleges which may be endowed under the provisions of this act, and one copy to the Secretary of the Interior

Fifth—When lands shall be selected from those which have been raised to double the minimum in price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth—No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefits of this act.

Seventh—No state shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its Legislature, within two years from the date of its approval by the president.

SEC. 6. *And be it further enacted,* That the land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty three.

SEC. 7. *And be it further enacted,* That the land officers shall receive the same for locating land scrip, issued under the provisions of this act, as is now allowed for the location of military bounty land warrants under existing laws: *Provided,* their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted,* That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip, until the whole amount shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

THE HATCH ACT.

A copy of an Act of the United States, passed March 2, 1887, known as the Hatch Act:

AN ACT TO ESTABLISH AGRICULTURAL EXPERIMENT STATIONS IN CONNECTION WITH THE COLLEGES ESTABLISHED IN THE SEVERAL STATES UNDER THE PROVISIONS OF AN ACT APPROVED JULY 2, 1862, AND OF THE ACTS SUPPLEMENTAL THERETO.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory established, or which may hereafter be established, in accordance with an act approved July 2, 1862, entitled "An Act donating lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station": *Provided,* that in any State or Territory in which two such colleges have been, or may be, so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the Legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of such experiment stations to conduct original researches or experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of plants at their different stages of growth; the comparative advantage of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigations or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important, and, in general, to furnish such advice as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the Commissioner of Agriculture, and the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 is hereby appropriated, to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the Treasurer or other officer duly appointed by the governing board of said college to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however,* that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act, and having also agricultral experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations established by such States; and in case any State shall have established, under provisions of said act of July 2 aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or School, and said States shall have established or shall hereafter establish a separate agricultural college or school which shall have connected therewith an experimental farm or station, the Legislature of such State may apply in whole or in part the appropriation by this act made to such agricultural college or school; and no Legislature shall, by contract expressed or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the yurposes of said grants: *Provided,* that payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of the Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 2, 1887.

TABLE OF STUDIES.

FRESHMAN CLASS—FOR BOTH COURSES.

	Fall.	*Winter.*	*Spring.*
Agriculture and Horticulture	3	--	3
Physics and Chemistry	2	3	3
Mathematics	5	6	6
English	4	4	4
History	2	3	--
Agricultural and Horticultural Practice	4	4	4
Carpenter shop	4	4	4
Drawing	3	3	3

FOR THE COURSE IN AGRICULTURE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Agriculture	4	--	--
Horticulture	--	2	2
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Agriculture	3	5	3
Horticulture	2	3	2
Agricultural Chemistry	3	3	3
Mathematics and Surveying	3	--	3
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Agriculture	4	4	4
Horticulture	4	4	4
Org. and Theoret. Chem	3	3	3
English	3	3	3
History	1	1	1

PRACTICE WORK.

SOPHOMORE		JUNIOR.		SENIOR.	
Agr. and Shop	4	Agr	4	Agr	4
Hortic	4	Hortic	4	Hortic	4
Chem. Lab	3	Qual. Anal	6	Quant Anal	8

FOR THE COURSE IN MECHANICS.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Architecture	3	--	
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Graphic Statics and Mechanics	3	2	2
Steam and Steam Machinery	4	4	4
Mathematics and Surveying	3	5	5
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Mechanics of materials and of machinery	3	--	3
Roofs and Bridges, and Construction	--	3	2
Machinery of transmission	--	--	3
Analytical Mechanics	3	3	3
Mathematics	5	5	--
English	3	3	3
History	1	1	1

PRACTICE WORK.

SOPHOMORE		JUNIOR.		SENIOR.	
Chem. Lab	3	Shop and Surveying	10	Shop	10
Shop work	7	Drawing	5	Drawing	5
Drawing	5				

CALENDAR.

Thursday, July 13 } Examination at County Seats by County
Thursday, Sept. 14 } Superintendents.
Tuesday, Sept. 5 } Examinations for admission and for
Wednesday, Sept. 6 } conditioned students.
Thursday, Sept. 7, Registration Day.
Friday, Sept. 8, Recitations begin.
Thursday, Nov. 30, Thanksgiving day.
Thursday, Dec. 21, Fall Term ends.

Tuesday, Jan. 2, Examination of conditioned students.
Wednesday, Jan. 3, Winter Term begins.
Thursday, February 15, Announcement of subjects for theses.
Friday, March 23, Winter Term ends.

Tuesday, March 27, Examination of conditioned students.
Wednesday, March 28, Spring Term begins.
Friday, June 1, Last day for submitting thesis.
Friday, June 8, Senior Examinations end.
Friday, June 15, Examinations end.
Wednesday, June 20, Commencement Day.

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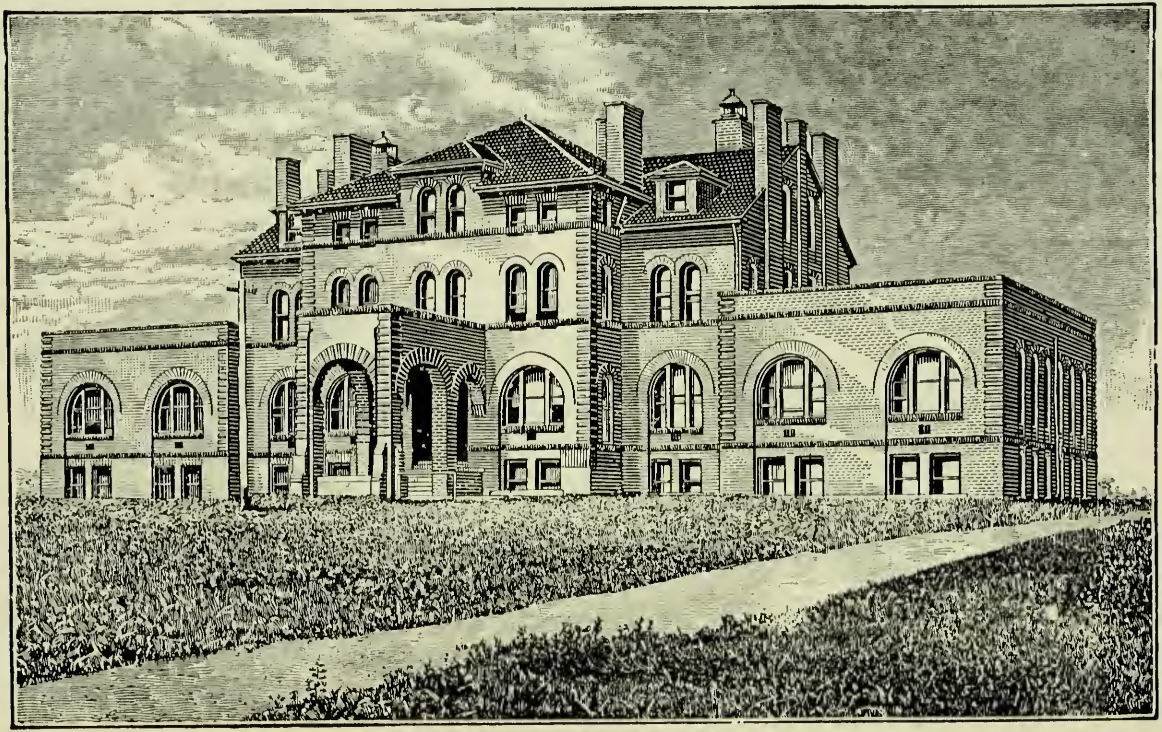

NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS. (MAIN BUILDING).

FIFTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH, N. C.

1893-'94.

FALL TERM BEGINS ON SEPTEMBER 6, 1894.

RALEIGH:
EDWARDS & BROUGHTON, PRINTERS.
1894.

TRUSTEES OF THE COLLEGE.

W. S. Primrose President of the Board.	Raleigh.
†W. F. Green	Franklinton.
D. A. Tompkins	Charlotte.
†H. E. Fries	Salem.
N. B. Broughton	Raleigh.
†W. R. Williams	Falkland.
†J. B. Coffield	Everett's.
†W. R. Capehart	Avoca.
†W. E. Stevens	Clinton.
†J. H. Gilmer	Greensboro.
†J. F. Payne	Alma.
†J. R. McLelland	Mooresville.
†C. D. Smith	Franklin.
R. W. Wharton	Washington.

EXECUTIVE COMMITTEE.

W. S. Primrose, *Chairman.*
W. F. Green, Henry E. Fries,
N. B. Broughton, W. E. Stevens.

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*
J. B. Coffield, J. H. Gilmer.

---

† Members of the Board of Agriculture, and elected by the General Assembly. Others are appointed by the Governor and confirmed by the Senate.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY.
President and Professor of History.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry and Secretary.

D. H. HILL, A. M.,
Professor of English.

B. IRBY, M. S.,
Professor of Agriculture.

W. C. RIDDICK, A. B., C. E.,
Professor of Mechanics and Applied Mathematics.

RICHARD HENDERSON, LIEUT. U. S. N.,
Professor of Military Tactics and Physics.

R. E. L. YATES, A. M.,
Adjunct Professor of Mathematics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

CHARLES M. PRITCHETT, B. S.,
Instructor in Mechanics.

CHARLES B. PARK.
Superintendent of Shops.

B. S. SKINNER,
Assistant in Farm Practice and Farm Superintendent.

F. P. WILLIAMSON, D. V. S.,
Instructor in Veterinary Science.

*C. B. WILLIAMS, B. S.,
Instructor in Chemistry.

S. E. ASBURY, B. S.,
Instructor in Chemistry.

L. T. YARBOROUGH, B. E.,
Assistant in Shops.

F. T. MEACHAM, B. S.,
Dairyman.

C. D. FRANCKS, B. E.,
Tutor of the Sub-Freshman Class.

MRS. SUE C. CARROLL,
Matron.

J. B. DUNN, M. D.,
Physician.

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* Resigned.

STUDENTS.

POSTGRADUATES (6).

Name.	*County.*	*Course.*
Asbury, Samuel Erson, B. S.	Gaston	Chemistry.
Francks, Charles Duffy, B. E.	Onslow	Mechanics.
Holladay, Charles Bolling, B. E.	Wake	Mechanics.
Meacham, Frank Theophilus, B. S.	Wake	Agriculture.
Williams, Charles Burgess, B. S.	Camden	Chemistry.
Yarbrough, Louis Thomas, B. E.	Caswell	Mechanics.

SENIOR CLASS (10).

Name.	*County.*	*Admitted.*
Boyd, Pascal Strong	Iredell	1890
Corpening, Charles Edward	Caldwell	1890
Cox, David, Jr	Perquimans	1890
Hargrove, Peyton Clifford	Edgecombe	1890
Patterson, Robert Donnell	Orange	1890
Pearson, Charles	Polk	1890
Rogers, Zebbie George	Person	1891
Saunders, John Hyer	Pitt	1891
Walton, Benjamin Franklin	Wake	1890
Wilson, John McCamy	Mecklenburg	1890

JUNIOR CLASS (25).

Name.	*County.*	*Admitted.*
Bizzell, James Adrian	Cumberland	1891
Blount, John Isham	Sampson	1891
Brawley, James Washington	Iredell	1891
Bullock, George Tarry	Vance	1891
Bullock, Walter Austin	Vance	1891
Clark, David	Wake	1892
Corbett, George Washington, Jr	Pender	1891
Darden, Edwin Speight	Greene	1891
Davis, William Kerney, Jr	Franklin	1891
Dey, Joseph Charles	Currituck	1891
Ennett, Lee Borden	Carteret	1891
Faust, Isaac Henry	Randolph	1891
Gold, Charles Wyllis	Wilson	1891
Harriss, William Henry	Warren	1891
Hughes, Christopher Miller	Wake	1891

Name.	*County.*	*Admitted.*
Hunter, Malcolm Beall	Mecklenburg	1891
McEachin, Albert Dozier	Richmond	1891
McKeown, Samuel Christopher	South Carolina (State)	1891
Patterson, Mann Cabe	Orange	1890
Prince, Abram Hinman	Vance	1891
Privott, Victor Vashti	Chowan	1891
Stafford, Frank Caldwell	Cabarrus	1891
Williams, George Daniel	Gates	1891
Wiswall, Howard, Jr	Beaufort	1891
Yarbrough, Charles Garrett	Caswell	1891

SOPHOMORE CLASS (31).

Name.	*County.*	*Admitted.*
Allen, Daniel	Wake	1893
Beard, Robert Bruce	Forsyth	1892
Council, John Taylor	Bladen	1892
Crawford, James Samuel	Wayne	1893
Foscue, Julian Manly	Jones	1892
Fraps, George Stronach	Wake	1893
Green, Marion Jackson	Rutherford	1892
Grier, Samuel Andrew	Cabarrus	1892
Harris, McCamy Jay	Cabarrus	1892
Hicks, John Thomas	Durham	1892
Howard, John	Edgecombe	1892
Jackson, William Colbert	Pitt	1892
MacRae, James Christopher	Cumberland	1892
Matthews, Paul Vance	Halifax	1892
Mewborne, Robert Graham	Lenoir	1892
Mitchell, George Lee	Surry	1892
Moore, Tilon Vance	Brunswick	1892
Seymore, Thomas Henry	Franklin	1892
Shafer, William Anton	Virginia (State)	1892
Smithwick, Thomas Jehu	Bertie	1892
Squires, Mark	Union	1892
Stanley, Paul Hampton	Wayne	1892
Stronach, Van Dalen	Wake	1893
Vick, Mark Rodgers	Northampton	1892
Wessell, Emil August	New Hanover	1892
Whitaker, John Richard, Jr	Halifax	1892
Whitted, Levi Romulus	Alamance	1893
Williams, Henry Lloyd	Gates	1892
Williams, Jesse Burgess	Camden	1892
Wilson, Amme Anerol	Gaston	1892
Yarborough, Webb Chitmond	Caswell	1892

FRESHMAN CLASS (73).

Name.	*County.*	*Admitted.*
Baker, William Manly	Edgecombe	1893
Battle, Dossey, Jr.	Edgecombe	1893
Battle, Edward Graham	Edgecombe	1893
Belvin, Charles Hinton, Jr	Wake	1892
Brogden, William Castella	Wayne	1893
Buffaloe, Joseph Samuel	Wake	1893
Burgwyn, Henry King	Northampton	1893
Cameron, Duncan Haywood	Wake	1893
Carroll, John William	Wake	1892
Clark, Charles Edward	Mecklenburg	1890
Cotten, Preston Sims	Pitt	1893
Cox, Elijah Lee	Norfolk, Virginia	1893
Dock, William Henry	Columbus	1893
Eure, Tazwell Augustus	Gates	1893
Farrior, Henry Davies	Duplin	1893
Fonville, Coy	Wake	1893
Furman, Robert Mathewson, Jr.	Buncombe	1893
Gibbon, Nicholas Louis	Mecklenburg	1893
Green, Maurice Marvin	Wake	1892
Griffin, Charles Otis	Craven	1893
Griffith, Charles Helsebeck	Forsyth	1893
Gwyn, Rufus McCawley	Caldwell	1893
Harper, James	Caldwell	1893
Harris, Cebern Dodd	Wake	1893
Harvey, Edward Lee	Lenoir	1893
Heartt, Charles Dennis, Jr	Wake	1892
Hodge, John Madison	Wake	1893
Hopkins, Charles Ervin	McDowell	1893
Ingram, Edmond Jerry	Montgomery	1893
Jones, John Arthur	Person	1893
Joyner, Clarence Haywood,	Northampton	1893
Joyner, Thaddeus Otis	Northampton	1893
Kendall, Clyde Bennett	Anson	1893
Kennedy, Sidney Gustavus	Lenoir	1893
Kirby, George	Sampson	1893
Lamb, Frederick Creecy	Pasquotank	1893
Latham, Hannis Taylor	Beaufort	1893
Lytch, Angus Ferguson	Richmond	1893
Matthews, James Richmond	Nash	1893
McCracken, Robert Pinckney	Haywood	1893
McGregor, James Tillman	Anson	1893

Name.	*County.*	*Admitted.*
McLendon, Walter Jones	Anson	1893
Mebane, Charles Pleasant, Jr.	New Hanover	1893
Merritt, Repton Hall	New Hanover	1893
Middleton, Floyd Carlton	Duplin	1893
Miller, Stephen Henry	Duplin	1893
Moore, Robe B	Burke	1893
Mosely, Wylie Thomas	Lenoir	1893
Oliver, Albert Hicks	Duplin	1893
Perry, Charles Herman	Iredell	1893
Peterson, George Langdon	Sampson	1893
Philips, William Burt	Nash	1893
Powell, Thomas Cox	Wake	1893
Primrose, Hugh Williams	Wake	1893
Richardson, James Wall	Anson	1893
Riddle, Samuel Marvin	Wake	1893
Robinson, Percy Philip	Wake	1893
Sanders, Willis Hunter	Harnett	1893
Scott, Charles Alexander	Craven	1893
Sinclair, James Alexander	McDowell	1893
Skinner, James Leigh	Wake	1893
Syme, George Frederick	Wake	1893
Thomas, Lawrence Butner	Davidson	1893
Trigo, Jose Fabio Santos	Havana (Cuba)	1892
Waldo, Harry	Martin	1893
Wall, Tyler Bennett	Anson	1893
Watson, Lea	Wake	1893
Welborn, William Fowle	Davidson	1893
West, Thomas Blake	Wake	1892
Whitaker, Joel	Wake	1893
Wootten, Bradley Jewett	New Hanover	1893
Wright, George Arlington	Robeson	1893
Zoeller, Charles Henry	Edgecombe	1893

SPECIAL STUDENTS (7).

Name.	*County.*	*Admitted.*
Ashe, Thomas Martin	Wake	1890
Carter, William Johnson	Wake	1893
Foy, Clarence Bender	Jones	1889
Hughes, William Henry, Jr.	Wake	1893
King, William Henry	Wake	1893
Smith, William August	New Hanover	1893
Wynne, William Andrew	Wake	1893

SUB-FRESHMAN CLASS (40).

Name.	*County.*
Allen, Charles Skinner, Jr	Wake.
Armstrong, John Bannerman	Pender.
Asbury, Dorsey Frost	Gaston.
Bagwell, Harvey J	Wake.
Bashford, Arthur Littleton	Wake.
Bashford, Ernest Niefer	Wake.
Battle, Robert Marriott	Edgecombe.
Brown, John Roy	McDowell.
Burgin, John Harvey	McDowell.
Church, Frank Juinor	Vance.
Davis, William Henry	Wake.
Deboy, Henry George	Wake.
Dowell, Horace Robert	Wake.
Forney, Lewis	Rutherford.
Frazier, Heskel Nathaniel	Columbus.
Furman, George Blacknall	Buncombe.
Goodwin, George Lee	Wake.
Hawes, John Robert	Pender.
Hollingsworth, Edison Jarvis	Pender.
Jones, John Robert	Caswell.
Jordan, John Council	Wake.
Lewis, Augustus Marion	Wake.
Lougee, Ernest McKee	Wake.
Matthews, James Webb	Nash.
McKay, John Hugh	Richmond.
Picard, William Howard	Northampton.
Quinerly, Joseph	Pitt.
Simpson, Thomas Skinner	Wake.
Stevenson, Edward Hamilton	Lenoir.
Sutton, Fred. Ambrose	Wake.
Swindell, John Leavy	Wake.
Tarry, Albin Rawlins	Mecklenburg (Va.)
Taylor, Philip Hoy	Wake.
Terrell, Thomas Fuller	Wake.
Watson, David Frederick	Sampson.
Weaver, Walter Lucas	Northampton.
Wharton, Thomas William	Wake.
Wilson, Otho Richardson	Wake.
Workman, Frederick	Wake.
Worrell, William James	Wake.

..COMMENCEMENT 1893...

ANNUAL ORATION

BY

Hon. HENRY WATTERSON, Louisville, Kentucky.

BACCALAUREATE SERMON

BY

Rev. HENRY W. BATTLE, D.D., Petersburg, Virginia.

..GRADUATING. CLASS...

Name.	*Degree.*	*Post-Office.*
ROBERT WILSON ALLEN	B. E	Poplar Hill.
SAMUEL ERSON ASBURY†	B. S	Gastonia.
HENRY EMIL BONITZ†	B. E	Wilmington.
FRANK FULLER FLOYD	B. E	Wilton.
CHARLES DUFFY FRANCKS*	B. E	Richlands
EDWARD MOORE GIBBON	B. E	Derita.
GEORGE PENDER GRAY	B. S	Tarboro.
CHARLES BOLLING HOLLADAY	B. E	Raleigh.
WILLIAM MCNEILL LYTCH	B. E	Laurinburg.
WALTER JEROME MATHEWS	B. E	Biltmore.
JAMES WILLIAM MCKOY	B. E	Black Mountain.
FRANK THEOPHILUS MEACHAM	B. S	Raleigh.
CARL DEWITT SELLARS	B. E	Stainback.
CHARLES EDGAR SEYMOUR	B. S	Louisburg.
BUXTON WILLIAMS THORNE	B. E	Airlie.
WILLIAM HARRISON TURNER	B. E	Norwood.
CHARLES BURGESS WILLIAMS*	B. S	Shiloh.
LOUIS THOMAS YARBROUGH	B. E	Semora.
SAMUEL MARVIN YOUNG	B. E	Raleigh.

---

*With First Distinction in Course.
†With Second Distinction in Course.

HONOR ROLL 1892-'93.

FRESHMAN CLASS.

Marion Jackson Green.

SOPHOMORE CLASS.

Howard Wiswall,
Walter Austin Bullock,
James Adrian Bizzell.
Samuel Christopher McKeown.

JUNIOR CLASS.

Charles Pearson,
Zebbie George Rogers.

SENIOR CLASS.

Samuel Erson Asbury,
Charles Burgess Williams.

FRESHMAN PRIZES IN AGRICULTURE.

Medal, ...	Laurence Jay Rumple.
Ten-Dollar Prize, ...	Marion Jackson Green.
Five-Dollar Prize, ...	Webb Chetmond Yarbrough.

THE NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS

Was founded under act of the General Assembly of March 7, 1887, and was first opened for the reception of students October 2, 1889, since which time its growth has been steady and its work thorough.

The general purpose of this College is so to teach the principles and applications of the sciences, illustrating sound theory by daily practice, as to make out of its students useful and successful men, instead of mere intelligent drones.

"One of the special objects of the College is to foster a higher appreciation of the value and dignity of intelligent labor and the worth and respectability of laboring men. A boy who sees nothing in manual labor but mere brute force despises both the labor and the laborer. With the acquisition of skill in himself comes the ability and willingness to recognize skill in his fellows. When once he appreciates skill in handicraft, he regards the workman with sympathy and respect."

The Jews, in scriptural times, taught each boy a trade, in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time, in this and other countries, have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such instructions as we are now commencing is calculated to work out such economic results.

In an agricultural and mechanical college the student is taught to know that work is honorable, and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. The labor is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the technical education which will be given by the agricultural and mechanical college and the established colleges and the University of the State. Taking our College as one department of learning, and the above named institutions as another, their spheres are widely different, and they should be of practical benefit each to the other, and both to the commonwealth.

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction; in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle-raising and the production of dairy products; in its trucking interests, fruit and small fruits; in its ores and minerals, its lumber and hardwoods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, *skill* and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State, as far as it can reach them, in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits, it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an agricultural and mechanical college, in which the very best methods and results can be studied and worked out, practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock-raisers, dairymen—men who will be interested in their work, and who will make their work profitable.

The State also has need of good mechanics, carpenters, draughtsmen, contractors, manufacturers, architects, civil and mechanical engineers, and the college will help to make them.

In conclusion, while the college will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure, of the members of the Faculty of the College to take an active part in farmers' institutes, which are accomplishing so much of good in many States in the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands. They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, etc. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, etc.

COURSES OF INSTRUCTION.

The three general courses of study offered in this institution are in Agriculture, in Mechanics, and in Applied Science. In the *Freshman year* the work of the students in these courses *is the same* and consists of Mathematics, English, Physics, Chemistry, Physiology, Botany, History and Agriculture in the class-room and practice work in the field, greenhouse, carpenter-shop, drawing-room and physical laboratory. At the beginning of the Sophomore year the courses begin to specialize and the student selects the one best fitted to his needs. With each of the higher classes more time is given to the technical studies of the course.

THE COURSE IN AGRICULTURE.

The technical work of this course is included in the departments of Agriculture, Horticulture, and Chemistry, in either of which the student may make his thesis for graduation.

We endeavor to keep in view the fact that the course is not intended as a training-school for farm laborers, but for fitting young men for intelligent work in Agriculture, either on the practical side in directing the great army of uneducated muscle in the field or greenhouse, or on the more scientific but none the less valuable side as workers in the laboratories of Agricultural Chemistry or Botany.

The manual labor is performed during the practice hours, is only such as is considered necessary and instructive, and does not consist of mere drudgery, of which most of the students know enough already before their admission. While taught that no labor is beneath the dignity of a thorough farmer when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American agriculture, and thus send them out as *leaders in improvements,* instead of mere followers in ruts of other men's making.

THE COURSE IN MECHANICS.

The technical work of this course is included in the departments of Mechanics, Applied Mathematics, and Physics, in either of which the student may make his thesis for graduation.

This is not a trade school, and it is of course not expected that our students shall necessarily adopt a trade; but if any should desire to do so, the training given here in the principles underlying all mechanical trades, as well as in their application, will make smooth the way and give the right start to all students who can remain but one or two years, preferring then to take up a trade rather than to work on to the graduating degree, which will give them position as civil or mechanical engineers.

An examination of the work for each year, as shown in the table at the end, will give an accurate idea of the qualifications of each student at any given point in the course, whether his purpose may be to adopt a trade, or only to direct with intelligent skill operations of his own business, or to seek employment in the highest branches of engineering.

THE COURSE IN APPLIED SCIENCE.

The work of this course, outside of the general studies required, is largely elective, the subjects being included under the departments of Entomology, Zoölogy, Botany, Chemistry, Physics, Applied Mathematics, etc. The graduating thesis may be made in either of these departments. The full time given to practice work in the other courses is required in this.

POSTGRADUATE WORK.

A line of postgraduate work extending through one year will be provided for both of the college courses. In the courses in Agriculture and in Applied Science this postgraduate work will lead to the degree of Master of Science, and in the Mechanical course to the degree of Mechanical Engineer.

The studies in each will be carefully adapted to the expansion and development of the special lines of study selected by graduate students for a professional calling.

SPECIAL WORK.

Special students, otherwise qualified, may be admitted to courses already provided in the College, provided that no inconvenience result to the members of the regular classes.

SUB-FRESHMAN CLASS.

A sub-Freshman class has been organized to give special preparation to such young men as are unable to enter the Freshman class, and who nevertheless desire a technical education. This class has been found very useful during the session of 1893–'94.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. B. IRBY, M. S.

ASSISTANT PROFESSOR, F. E. EMERY, B. S.

FARM SUPERINTENDENT, B. S. SKINNER.

INSTRUCTOR IN VETERINARY SCIENCE, DR. F. P. WILLIAMSON.

The instruction in this department is so arranged that the students taking the course will be able to fit themselves for not only the details of farm work, but for managing farms as well. An effort is made to so blend the practical with the theoretical that a student will know *how* a thing is done, as well as *why*. The students have the following course in the lecture-room and field:

The Freshman Class has three months in "First Lessons in Agriculture," and three months in physiology. Their practice work consists in laying off ditches and terraces, constructing same and cultivating crops, etc.

In the Sophomore year they have lectures on hygiene of the farm, drainage, description and use of farm implements, cultivation and harvesting of crops. They also have an advanced course in physiology and anatomy. Practice work the entire year correlates with their class-room work.

The Junior Class has zoölogy, lectures on veterinary science, and dairying. The latter includes selection of dairy herds, development of herds, calculation of feed rations, milking, ripening of cream, use of separator, churning, etc., keeping records and tests of cattle, calculation of milk values from tests, location of permanent pastures, and rotation of crops best suited to our State for dairy herds. Practice work the entire year consists in feeding, milking, care of cattle and dairy work generally.

The Senior Class has theoretical and practical instruction in tile drainage—everything from reconnoitering the ground to laying the tile. A course in meteorology and its relations to the farm is also given. They have, too, a course of lectures serving as a capstone for the four-year course. These lectures treat of farm economy, plan of work, special farming, diversified farming, growing supplies at home, organizing the farm, arrangement of buildings, location of fields, care of stock, etc., science as applied in feeding, nutritive and manurial value of feed stuffs, care and use of manures and commercial fertilizers, rotation of crops and renovation of soils. The class has practice work the entire year. This, with a thesis for commencement, completes the course.

A Post Graduate Course has been provided, and students taking same are given special instruction in studies pertaining to agriculture, and, in addition, regular work on the farm.

The practice work during the four years is not paid for, as it is considered a part of the instruction, but work done voluntarily by the students is paid for at the rate of seven cents per hour. They are encouraged to work as much as possible, and as the work is done under the supervision of the Professor of Agriculture and the Superintendent of Farm it is instructive as well as remunerative. Thus many of them are enabled to pay a great part of their expenses with their own labor. It is a noticeable fact that the boys who work well stand high in their classes. The Experiment Station is always open to students for investigation and instruction.

The equipment of the farm is as follows:

Large basement barn, 50 x 72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain-bins, etc.; third story, by hay, which is elevated by Ricker & Montgomery hay carrier. Just outside of the barn there is a seventy-ton circular silo. This is connected with a No. 18 Ohio Standard feed and ensilage cutter. The power for cutter is supplied by an eight-horse-power Skinner engine.

The dairy building is commodious, having two large and one small room on first floor, besides the cellar. The upper story is occupied by the Agricultural Society, where they meet every Saturday night. The dairy is supplied with separator, Babcock tester, and other implements for running a dairy. The cellar is cemented and has a cemented aqueduct on one side, through which flows 1,800 gallons of water per day, fed by springs from above. This is for ripening cream and water-supply.

The live stock consists of two Percheron mares, two mules, three Jersey cows, seven grades, three common cows, and seven pure-bred Poland-China hogs.

The field crops are corn, cotton, ensilage, peas, potatoes, hay, clover, oats, rye, soja beans, etc.

It is the endeavor of all to make practical farmers of all the agricultural students, and not visionary theorists.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROFESSOR MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but Systematic Botany will also receive due attention. It will not be taught by the mere memorizing of dry definitions, but by a practical study of the characteristics of plants upon which classification is founded.

Those who complete the whole course will receive instruction in all the branches needed by a professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road-working, the construction of horticultural buildings, and forest improvement.

The greenhouse at the College and the greenhouse and glass grapery at the Experiment Station, where exotic grapes are grown under glass, furnish means for practical study and illustration.

COURSE OF STUDY.

FRESHMAN YEAR.

Laboratory study of plant structure; Systematic Botany; Lectures on anatomy and physiology of plants; Practice work in Vegetable Garden.

SOPHOMORE YEAR.

Structural Botany; Pomology, with practice in budding, grafting and greenhouse propagation; Orchard and Vineyard management; Invertebrate Zoölogy and Entomology; Laboratory study of grasses.

JUNIOR YEAR.

Physiological Botany; Vegetable Histology with Compound Microscope; Forestry; Cryptogamic Botany in Spring Term.

SENIOR YEAR.

Palæobotany, with lectures on General Geology and Palæontology; Laboratory study of parasitic fungi; Landscape Gardening, Road-making and Horticultural construction; Commercial Floriculture and winter fencing; Practice in cross fertilization.

In Winter and Spring Terms of Senior year practice work will be largely elective between Botanical and Chemical Laboratory and work in Agriculture, so that the student may have abundant opportunity for doing good original work in the department in which he proposes to make his thesis.

THESIS.

Students making their thesis in this department must select the subject early in the year, with the advice of the Professor.

In the Junior and Senior years each student will be furnished with a compound microscope and must make a deposit, at the beginning of each year, of three dollars for materials and reagents used, any unexpended balance of which will be refunded at the end of the year. Instruments furnished by the College, but losses and breakage must be made good by student.

In the Freshman and Sophomore years a deposit of fifty cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession will be given special opportunities in the Junior and Senior years to become experts in greenhouse work and propagation. The College and Station Greenhouses and Exotic Grapery give particular advantages for this.

POSTGRADUATE COURSE.

The work in this department in postgraduate study for the degree of Master of Science, will consist of general Biological work in Laboratory, and in experimental work in cross fertilization, with a course of reading under the direction of the Professor. Hours by arrangement.

COURSE IN SCIENCE.

Students in the Scientific course will take up Vegetable Histology in the Sophomore year; Cryptogamic Botany, General Biology and Botinology in Junior and Senior years. The same Laboratory deposits will be required as of other students in the same line of work until the Senior year, when the Laboratory deposit will be $5.

DEPARTMENT OF CHEMISTRY.

PROFESSOR WITHERS.

MR. ASBURY.

The Chemical Laboratory is supplied with fume closets, evaporating baths, drying chamber, blast lamp, and extra tile-covered tables, and has accommodations for fifty-six students. The analytical tables are of yellow heart-pine with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus, and has three feet of working space. Each working space is provided with gas, distilled water, reagents and a sink.

The Chemical Library contains a carefully selected list of reference books and Chemical Journals.

While the ultimate aim of the work is towards the applications of the science to Agriculture and Technology and the preparation of the student for a career as a chemist, yet the fact is fully appreciated that this is most successfully realized when the work is based on a broad knowledge of the pure science.

The class-room work consists of lectures accompanied by full experiments, and the exhibition of specimens to which reference is made. Daily recitations are held on the matter of the previous lecture.

The Freshman Class has for its work a brief introduction to General Chemistry and its relations to the air, soil, plant and animal, following the order of Roscoe's Primer and Lupton's Scientific Agriculture.

The Sophomore Class has Inorganic Chemistry (Remsen's Briefer Course). The common elements and their principal compounds are studied with some of the fundamental principles of the science. Due attention is given to Stoichiometry. The latter part of the year is devoted to a short course in Metallurgy and Applied Chemistry.

The Junior Class has Agricultural Chemistry (Mayer). Attention is given to a consideration of the atmosphere as a plant feeder; the mineral and organic constituents of the plant and their functions; the soil and its relation to the plant; means of improving the soil; the preparation of manures and composts; green manuring; the composition of fodder and the different means of curing and preserving; animal chemistry; stock-feeding; chemistry of butter, of milk, etc.

The Senior class studies Remsen's Organic Chemistry and Meyer's Outlines of Theoretical Chemistry.

LABORATORY WORK.

In this work while the successfully performing of an experiment or identifying a substance is important, the student is expected to consider the chemical changes involved. To test this knowledge, he is required to record in his notebook the result of his work, his explanation of the changes involved and the reaction.

In the Sophomore year the work is in Inorganic Chemistry (Remsen's Manual) and supplements, the class-room work. The latter part of the year is devoted to Blowpipe Analysis.

The Junior Class has Qualitative Analysis, and the Seniors during the Fall Term Introductory Quantitative Analysis (Caldwell). When the student has become somewhat familiar with the ordinary processes of gravimetric and volumetric analysis, he begins his advanced work in the line of Agricultural or Technical Analysis. An opportunity is also given for Organic Synthesis (Orndorff's Manual).

Postgraduates and elective students will be given advanced work along the lines indicated above.

The Chemical Seminary will meet fortnightly for the discussion of the Journals and other chemical subjects.

DEPARTMENT OF PHYSICS.

LIEUT. RICHARD HENDERSON, U. S. NAVY.

Instruction in Elementary Physics is given to the members of the Freshman Class. The recitations are illustrated by full experiments in the Laboratory.

Text-book: Gage's Elements of Physics.

JUNIOR YEAR.

The class instructed in Electricity and Magnetism entire year. Practical problems, requiring full knowledge of text studied, are to be solved and explained by students at each recitation.

Text-books: Thompson's "Elementary Lessons in Electricity and Magnetism;" Day's "Electric Light Arithmetic."

SENIOR YEAR.

This class will study Electrical Engineering and will carry on a progressive course in testing in the Laboratory. The course will include Dynamo Designing, the practical Wiring of Buildings, and the practical Winding and Construction of Armatures and Field Magnets of Dynamos and Motors, Electric Welding and Electro-Metallurgy.

Text-books: Kempe's "Electrical Testing" and Thompson's "Dynamo Electric Machinery."

DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

PROFESSOR RIDDICK. MR. PARK.
MR. PRITCHETT. MR. YARBROUGH.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering.

The course, as laid out, is intended to give to those who complete it such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments and in the management of machinery as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Mechanics.—This includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

As far as possible, this subject will be made clear and plain by explanations in the shop building.

Buildings and Building Materials.—This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts and the correct methods of making and fixing each in its relations to the others. They are also taught to make estimates and bills of materials.

JUNIOR YEAR.

Steam and Steam Machinery.—This is a study of engines and boilers, and steam-plants in general. A text-book will be used. Work will be done with the engine and boiler. The students will learn to fire the boiler and tend the engine.

Graphic Statics.—The student learns to determine the stresses in framed structures, bridge and roof trusses by the graphic methods.

Surveying.—During the winter the students will confine their attention to a theoretical study of the principles of surveying, and in the spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—The students are here taught the analytical methods of determining the stress of the various members of a roof or a bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures.—During the year one hour per week will be devoted to lectures upon the Strength of Materials and Designing, with special attention to the Designing of Structures and Plants for particular purposes. And, if possible, some time will be devoted to Water-works, Sewerage, etc.

FIFTH OR GRADUATE YEAR.

This department offers facilities for one year of post-graduate work in Mechanical Engineering, leading to the degree of M. E. The course is open to our own graduates, and those of other institutions with equivalent requirements for graduation. The course of study is to some extent flexible, admitting of slight changes to suit the needs of the individual student. It consists, in general, of a more thorough study of Mechanics of Materials, Mechanics of Machinery, and Machine Design, including designs for shops and power-stations; Steam Heating and Ventilating in detail, and the elements of Marine and Railway Engineering. Before graduation, each student will be required to prepare a paper containing a critical review of some mechanical construction, or a complete mechanical design.

PRACTICAL WORK IN THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

During the Freshman year the students in both the Agricultural and Mechanical Courses work four hours a week in the carpenter shop. The work consists of a number of exercises by which the student is taught the use of carpenter's tools. Towards the end of the year's work each student is required to make some article which will test his workmanship, and at the same time be useful. Each student is furnished with a set of carpenter's tools, which he is required to keep in order and return to the Professor or his assistant at the end of the year's work.

The work of the Sophomore Class in the Forge Shop consists of a number of graded exercises by which the students are taught to work in iron and steel. The students begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools. They are then taught how to build and tend the fire, and to heat iron. When they can do this, they forge simple shapes out of hot iron. They learn to "bend," to "draw," to make "scarfs," and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they are taught to work with steel and to temper it, and are given a short course in tool-making.

The course of work in the Forge Shop for the students in the Agricultural Course is shorter than that for the mechanical students, and is specially laid out for them.

During the Fall and Winter terms, the Junior Class works ten hours per week at wood-turning and pattern-making. They work with each machine in turn and learn to use all well. They take turns in tending to the machinery, shafting and belting, and are given a course in pattern-making the last part of the year.

The students of the Junior Class take turns in firing and tending to the boiler, and also in tending to the engine. Whenever the class is at work in the shop, one of the students is firing and tending the boiler and another is looking after the engine.

In addition to the regular course of exercises, the students of the Junior Class are called upon to make boxes, cupboards, shelves, drawing-boards, etc., and to do such work as may be necessary for the department or the College.

During the Senior year the students work ten hours a week in the machine-shop, where, under the supervision of skilled practical machinists, they learn to use the machines and tools ordinarily found in a machine-shop. Here, as in the other shops, the work consists at first of graded exercises, designed to teach, as thoroughly as possible, the use of each machine. When the students have learned to use these machines with a reasonable amount of skill, they are put to work upon some piece of machinery which will be of use to the College. During the Winter and Spring terms of last session, the class, in addition to their work on the exercises, built an engine.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on all the necessary dimensions and notes. This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

When an exercise is given to the class, the instructor explains where and how the work illustrated by that particular exercise is used in practical construction.

DRAWING.

During the Freshman year all the students in the College take a course in drawing. The drawing of this year consists of free-hand sketching, a course in lettering, and the elements of mechanical drawing.

After the Freshman year each student taking the Mechanical Course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and details of work and machinery already built and set up. The students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked, lettered and finished as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior Class he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shop are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making drawings of objects that already exist.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

EQUIPMENT.

The equipment of the Mechanical Department is as follows:

A commodious two-story brick shop-building, on the first floor of which is the machine-shop, 30 x 40 feet; forge-shop, 30 x 40 feet; a recitation-room, 23 x 24 feet, and a wash-room, 10 x 23 feet. On the second floor is the wood-turning shop, 30 x 40 feet; carpenter shop, 30 x 40 feet; drawing-room, 23 x 25 feet, and a small office.

The machine-shop is equipped with a 25 horse-power Woodbury automatic cut-off engine which furnishes the motive power for the machinery throughout the building. A planer, milling machine, two engine lathes (13″ and 14″), a drill press and emery wheel, also several vises and sets of tools for doing hand work.

The equipment of the wood-turning shop consists of ten 12-inch swing lathes, one saw and dado machine, one 20-inch pony planer, one mortising and boring machine, one 30-inch hand saw, one 6-inch "sticker," one grindstone, one mitering machine, and four benches equipped with iron vises and all necessary hand tools for pattern-making.

Each lathe is equipped with the necessary turning chisels and tools.

The forge-shop is fitted up with twenty-three forges. Each forge is equipped with a water-tank, shovel and poker. For each forge there are provided the following tools: an anvil, hammer, steel square, tongs and hardy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels for general use in the shop.

The carpenter shop is equipped with thirty carpenter-benches and all the necessary tools for each bench.

Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench.

These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him a jack-plane, $\frac{3}{4}$-inch chisel, $\frac{1}{2}$-inch chisel, $\frac{1}{4}$-inch chisel, and a slip-stone. These tools are used only by the student to whom they are issued, and he is held responsible for them.

In addition to the shop-building there is a boiler-house equipped with a 30 horse-power boiler, which furnishes steam to the engine in the machine-shop, and also to a small duplex Worthington pump which supplies water to the various buildings on the grounds.

The drafting room is furnished with thirty desks, and with each desk there is a T-square, set of instruments, rules and triangles. Each student is furnished a drawing board.

In addition to the above, the College owns a transit, Y level, compass, rods, chains, etc., a Thompson's Improved Indicator, Polar Planimeter, and other instruments used in illustrating the work of this department.

DEPARTMENT OF MATHEMATICS.

ADJUNCT—PROFESSOR YATES.

It will be the aim of this department to give the young men a thorough and practical knowledge of Pure Mathematics. All students will be required to do as much supplementary work as time will permit, for no principle is well learned by a pupil and thoroughly fixed in his mind till he can use it.

The course in Mathematics begins in the Freshman year and is completed by the students in the Mechanical Course at the close of the Winter Term of the Senior year. Agricultural students drop the study of Mathematics after having finished Trigonometry.

FRESHMAN CLASS.

During this year it is our purpose to complete Arithmetic and Algebra to quadratic equations. The young men are required to solve the problems by neat and intelligent methods, and are kept free from set rules and formulas.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

SOPHOMORE CLASS.

This class completes Algebra and Geometry. Every effort is directed to lead students to pursue these studies without feeling that they are characterized by arbitrary laws and mysterious processes; in other words, to work by reason and not by rules and memory.

In the study of Geometry no efforts are spared to compel students to think and invent new methods and demonstrations.

JUNIOR CLASS.

The work of this class will begin with the study of Trigonometry, followed by Analytical Geometry, which will be completed by the close of the session.

Much exercise work will be done, since it is only by solving problems which require some degree of original thought that any real mastery of the study can be gained.

SENIOR CLASS.

This class will begin Calculus at the beginning of the session and complete the same by the end of the Winter Term.

ENGLISH DEPARTMENT.

PROFESSOR HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and with ease, and be an intelligent and appreciative interpreter of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is gradually adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

Four Recitations a Week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text-books: Whitney's Grammar, Strang's Exercises, Lockwood's Lessons in English. Parallel for 1894–'95: The Sketch-Book, Scott's Lady of the Lake.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by a course in the elements of Rhetoric. In this course in

Rhetoric special attention will be paid to the analysis of themes and their subsequent elaboration, step by step. Much of this work will be done in the lecture-room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text-books: Lounsbury's English Language, Genung's Outlines of Rhetoric. Parallel for 1894–'95: For class-room, selections from De Quincey.

JUNIOR CLASS.

Three Times a Week.

The first part of this year will be spent upon Logic and Logical Praxis. Afterwards the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it. A short course in Linguistics will also be given.

Text-books: Jevon's Logic, Gregory's Practical Logic, Genung's Rhetoric and Rhetorical Analysis, Lectures. Parallel for 1894–'95: Macaulay's Chatham, Studies in Garnett's English Prose from Elizabeth to Victoria.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. Some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for 1894–'95: Jonson's Alchemist, Shakespeare's Merchant of Venice, and Lear will be assigned for class work.

Text-books: Fiske's Taine's Literature, Hawthorne and Lemmon's American Literature, Lectures on Poetry, Garnett's and Thayer's Selections, Browne's Versification, Hudson's or Rolfe's editions of Shakespeare.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT—PROFESSOR YATES.

All students in the Sophomore Class will be required to take single-entry bookkeeping during the Spring Term.

The work in the text-books will be supplemented by numerous original examples and sets for practice.

DEPARMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern. They are taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort is directed towards teaching students how to read and to think, rather than to recite.

Instructions will be partly by lectures and partly by standard text books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided in outside readings on special subjects, for which the College Library will afford ample conveniences.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

LIEUT. RICHARD HENDERSON, U. S. NAVY.

All students are required to attend the military drills and lectures.

Company drills on parade ground after 4:10 P. M. daily; Battalion drill, Inspection and dress parade on Friday at 4 P. M. Target firing during the months of May and June.

The Senior and Junior classes are required to study the Army Drill Regulations and Manual of Guard Mounting. Lectures by the Military Instructor on Camping, Battle Formations, Cover, Firings, etc.

Uniforms required: Two gray fatigue suits, which can be obtained at a cost of $7.75 each.

LOCATION.

The original College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from the corporate limits, the site is, in all respects, a suitable one. The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about five years, and the land is being brought up mainly by judicious vegetable manuring. Eighteen acres adjoining the College on the west have been purchased, in addition to the original tract, and still more land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake County, and the brownstone from Wadesboro, Anson County.

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, etc., are well arranged.

A carefully planned brick workshop, two stories high, has been erected and in use since September, 1890. This building contains a machine-shop, forge-shop, woodworking-shop, carpenter shop, class-room, office and wash-room, and is equipped for thorough work in every particular. More shop-room, however, is now imperatively needed for additional forges, pattern-making, etc., and a building 80 feet by 20 feet will be erected and equipped in time for use in September, 1894, in order to accommodate the rapid increase in the number of students.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, and three substantial brick dormitories have been erected near the main College building. Others will be added as soon as possible to supply the constantly increasing demand.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

REPORTS.

Reports of scholarship and deportment are sent at the end of each term. In the grading, 100 is the maximum, 90 or over is considered excellent, 80 or over creditable. To pass, the student must make 60. In calculating the average for the term, each subject counts equally.

HONORS.

Students whose average for the three terms is 90 or more will have their names inserted in the catalogue on the honor roll.

On graduation, the student in the course in Agriculture whose average is highest will be awarded first distinction in the course in Agriculture, and the student whose grade is next will be awarded second distinction. In the same way first and second distinctions in the course in Mechanics are awarded.

The students attaining first distinction in the two courses will be given a place on the Commencement stage, together with three others selected by the Faculty.

DEGREES.

Two Baccalaureate degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science. Upon those who, through four years, have done likewise in the Mechanical course the degree of Bachelor of Engineering will be conferred.

To postgraduates who have successfully passed examinations after a supplementary year's work the degree of Master of Science will be given in the Agricultural Department, and the degree of M. E. in the Department of Mechanics. The fee for Baccalaureate Diploma is $3, and for Diploma for M. E., or M. S., $5.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

A majority of the students are consistent church members, and have united in a Young Men's Christian Association, which meets once each week. Its meetings are well attended, and exert a most beneficial influence.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

There is also an Agricultural Society, which is full of life and energy.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

Reference libraries for the use of students have also been placed in the Departments of Agriculture, Horticulture, Chemistry, and Mechanics.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour.

PRIZES.

A gold medal of the value of ten dollars will be given to the Freshman student who most distinguishes himself in the agricultural work, and a second medal (or the money value thereof, ten dollars) to the student who, in addition to his class work, earns most money by his skill in agricultural labor outside, and a third medal (or the money value thereof, five dollars) to the student who, in addition to his class work, earns the next most money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to strict account for them, since, if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through four entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants must be at least fourteen years of age; must furnish evidence of good moral character and physical development; must understand the forms and laws of their *own language fairly well*, and must be familiar with *arithmetic*, including the practical rules of the same, through fractions, and have a fair knowledge of *Geography* and *State History.*

MODE OF ADMISSION.

On the second Thursday in July and September, or such other days as may be decided on by the County Boards of Education, applicants (said applicants to be restricted to the provisions of section 8, chapter 410, Laws of 1887) for admission to the College will present themselves before the County Superintendent of Education, and submit to an examination by written questions which will be prepared and furnished by the President of the College to the said Superintendent, who is requested to make sure that candidates receive no help in their examinations.

The Superintendent will please forward all completed examinations to the President of the College *without delay*, in order that there may be sufficient time for their careful perusal by a committee of the Faculty appointed for that duty. After such perusal the County Superintendent will be promptly informed which papers meet the College requirements, and he, with his Board of Education will, as soon as possible, select their appointees from the successful candidates and issue certificates to as many as their county has members of the House of Representatives. All candidates so chosen will be notified of their appointment, and must present themselves at the College at such time as may be designated by the President.

Entrance examinations will be held also at the College on the two days preceding the opening day, and also on the following Tuesday, and after this at other times by special appointment. These will be held at the following hours: English, 9 A. M.; Mathematics, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M.

Examinations for conditional students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report to the President of the College at once.

Students who have passed the examinations for admission or for advancement to a higher class will report to the Registrar for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules (a printed copy of which will be furnished him), and to a diligent performance of his duties.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever service is not held in the College building.

Each occupant of a dormitory will be expected to keep his room, or section of a room, in good order and ready for inspection at any time.

CLOTHING, ETC.

Each student should bring a bag in which to send washing to the laundry, and must make out washing-lists on blanks which will be furnished by the Matron, who will see that all articles delivered to her will be safely handled and returned. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm or in the workshop; in any event, a pair of overalls for such work.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost.*

BOARD AND LODGING.

Board and lodging will be furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month and lodging as below stated.

Each student living in the College must bring with him a change of sheets and pillow-cases and four towels, plainly marked.

It is understood that none except county students are expected to lodge and board in the College buildings. There not only is no objection, but it may be more convenient and desirable that regular pay students obtain board and lodging outside the College building—such boarding places to be subject to the approval of the Faculty.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1. Tuition free.	
2. Board, at $8 per month, per session 9½ months	$ 76 00
3. Washing, at 75 cents per month	7 50
4. Fuel and medical attendance, but not medicine, for entire session	10 00
Total	$ 93 50

II. FOR OTHER STUDENTS.

1. Tuition per session	$ 20 00
2. Board, at $8 per month, 9½ months	76 00
3. Washing, at 75 cents, term 10 months	7 50
4. Fuel and medical attendance, but not medicine, for entire session	10 00
5. For lodging in College building, room, furniture, bedding, etc	10 00
Total	$123 50

Of these charges $13.75 must be paid upon entering College, and the remainder *in monthly installments, in advance.*

Each student must also deposit, on entering, a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Each student in Chemistry must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year. These breakages are seldom over fifty cents per year for each hour per week spent in the laboratory.

For deposit in Horticultural laboratory see that department.

All students must furnish their own oil, lamp chimneys, books, stationery, drawing pencils, thumb-tacks, and medicines, and arrangements will be made for them to get these at lowest cost.

TABLE OF STUDIES.

FRESHMAN CLASS—FOR ALL COURSES.

	Fall.	*Winter.*	*Spring.*
Agriculture	--	2	--
Botany	--	--	4
Chemistry	2	--	--
Physiology	2	2	--
Physics	2	2	2
Mathematics	5	5	5
English	4	4	4
History	1	1	1
Physical Laboratory	2	2	2
Agricultural and Horticultural Practice	4	4	4
Shop	4	4	4
Drawing	3	3	3

FOR THE COURSE IN AGRICULTURE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	4	--	--
Agriculture	--	2	2
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

Agriculture	3	5	3
Horticulture	2	3	2
Agricultural Chemistry	3	3	3
Mathematics and Surveying	4	--	3
English	3	3	3
History	1	1	1

SENIOR CLASS.

Agriculture	4	4	4
Horticulture	4	4	4
Org. and Theoret. Chem	3	3	3
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Agr. and Shop	4	Agr	4	Agr	4
Hortic	4	Hortic	4	Hortic	4
Chem. Lab	3	Qual. Anal	6	Quant. Anal	8

Fifth Curriculum, 1893-1894 Slide 2

FOR THE COURSE IN MECHANICS.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Architecture	3	--	--
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Graphic Statics and Mechanics	2	2	2
Steam and Steam Machinery	4	3	3
Electricity and Magnetism	1	1	1
Mathematics and Surveying	4	5	5
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Mechanics of Materials and of Machinery	2	--	2
Roofs and Bridges, and Construction	--	2	2
Machinery of Transmission	--	--	2
Analytical Mechanics	3	3	3
Electrical Engineering	1	1	1
Mathematics	4	4	--
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Chem. Lab	3	Shop and Survey'g	10	Shop	10
Shop Work	7	Drawing	5	Drawing	5
Drawing	5			Electrical Testing	2

FOR THE COURSE IN APPLIED SCIENCE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	4	--	--
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Elective	7	6	6
Mathematics and Surveying	4	5	5
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Elective	11	11	11
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Chem. Lab	3	Elective	15	Elective	15
Botany, etc	7				
Drawing	5				

CALENDAR.

1894.

Tuesday, Jan. 2, Examination of conditioned students.
Wednesday, Jan. 3, Winter Term begins.
Thursday, Feb. 15, Announcement of subjects for theses.
Friday, March 23, Winter Term ends.

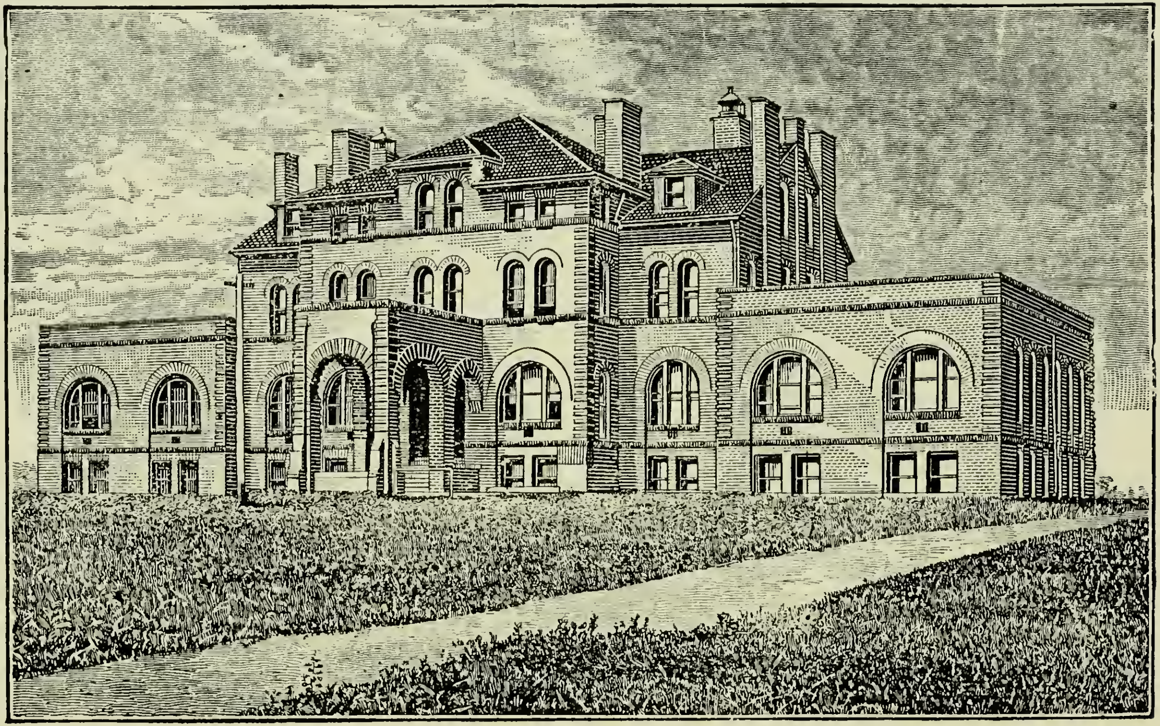
Tuesday, March 27, Examination of conditioned students.
Wednesday, March 28, Spring Term begins.
Friday, June 1, Last day for submitting thesis.
Friday, June 8, Senior Examinations end.
Friday, June 15, Examinations end.
Wednesday, June 20, Commencement Day.

Thursday, July 12 } Examination at County Seats by County
Thursday, Sept. 13 } Superintendents.
Tuesday, Sept. 4 } Examinations for admission and for
Wednesday, Sept. 5 } conditioned students.
Thursday, Sept. 6, Registration Day.
Friday, Sept. 7, Fall Term begins.
Thursday, Nov. 29, Thanksgiving day.
Friday, Dec. 21, Fall Term ends.

1895.

Wednesday, Jan. 2, Winter Term begins.
Friday, Feb. 15, Announcement of subjects for theses.
Friday, March 22, Winter Term ends.

Wednesday, March 27, Spring Term begins.
Saturday, June 1, Last day for submitting thesis.
Friday, June 7, Senior Examinations end.
Friday, June 14, Examinations end.
Wednesday, June 19, Commencement Day.



NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS. (MAIN BUILDING.)

SIXTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH.

1894-'95.

FALL TERM BEGINS ON SEPTEMBER 5, 1895.

RALEIGH:
Edwards & Broughton, Printers.
1895.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
President and Professor of History.

W. F. MASSEY, C. E.,
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS, A. M.,
Professor of Pure and Agricultural Chemistry, and Secretary.

D. H. HILL. A. M.,
Professor of English.

B. IRBY. M. S.,
Professor of Agriculture.

W. C. RIDDICK. A. B., C. E.,
Professor of Mechanics and Applied Mathematics.

RICHARD HENDERSON, LIEUT. U. S. N.,
Professor of Military Tactics and Physics.

R. E. L. YATES, A. M.,
Adjunct Professor of Mathematics.

F. E. EMERY, B. S.,
Assistant Professor of Agriculture.

CHARLES M. PRITCHETT, B. S.,
Instructor in Mechanics.

CHARLES B. PARK,
Superintendent of Shops.

B. S SKINNER,
Assistant in Farm Practice and Farm Superintendent.

F. P. WILLIAMSON, D. V. S.,
Instructor in Veterinary Science.

S. E. ASBURY, B. S.,
Instructor in Chemistry.

L. T. YARBOROUGH. B. E.,
Assistant in Shops.

CHARLES PEARSON, B. E ,
Assistant in Shops.

B. F. WALTON, B. S.,
Dairyman.

C. D. FRANCKS, B. E.,
Tutor of the Sub-Freshman Class.

MRS. SUE C. CARROLL,
Matron.

J. B. DUNN, M. D.,
Physician.

STUDENTS (240).

POST-GRADUATES (9).

Name.	*County.*	*Major Course.*
Samuel Erson Asbury B. S. '93, N. C. College of Agriculture and Mechanic Arts.	Gaston	Chemistry.
Charles Edward Corpening B. E. '94, N. C. College of Agriculture and Mechanic Arts.	Caldwell	Mech. Eng.
Charles Duffy Francks B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Onslow	
Charles Bolling Halladay B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Wake	Mech. Eng.
Charles Pearson B. E. '94, N. C. College of Agriculture and Mechanic Arts.	Polk	Mech. Eng.
Charles Marcellus Pritchett B. S. '91, Georgia School of Technology.	Cartersville, Ga	Mech. Eng.
Benjamin Franklin Walton B. S. '94, N. C. College of Agriculture and Mechanic Arts.	Wake	Agriculture.
Charles Burgess Williams B. S. '93, N. C. College of Agriculture and Mechanic Arts.	Camden	Chemistry.
Louis Thomas Yarbrough B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Caswell	Mech Eng.

SENIOR CLASS (23).

Name.	*County.*	*Admitted.*
James Adrian Bizzell	Cumberland	1891
John Isham Blount	Sampson	1891
James Washington Brawley	Iredell	1891
George Tarry Bullock	Vance	1891
Walter Austin Bullock	Vance	1891
David Clark	Wake	1892
George Washington Corbett, Jr.	Pender	1891
Edwin Speight Darden	Greene	1891
William Kearney Davis, Jr	Franklin	1891
Joseph Charles Dey	Currituck	1891
Lee Borden Ennett	Carteret	1891
Isaac Henry Faust	Randolph	1891
Charles Wyllis Gold	Wilson	1891
William Henry Harriss	Warren	1891
Christopher Miller Hughes	Wake	1891

Name.	*County.*	*Admitted.*
Malcolm Beall Hunter	Mecklenburg	1891
Samuel Christopher McKeown	South Carolina (State)	1891
Mann Cabe Patterson	Orange	1890
Abram Hinman Prince	Vance	1891
Victor Vashti Privott	Chowan	1891
Howard Wiswall, Jr	Beaufort	1891
Charles Garrett Yarbrough	Caswell	1891

IRREGULAR.

Thomas Martin Ashe	Wake	1890

JUNIOR CLASS (24).

Name.	*County.*	*Admitted.*
Daniel Allen	Wake	1893
Robert Bruce Beard	Forsyth	1892
James Samuel Crawford	Wayne	1893
George Stronach Fraps	Wake	1893
Marion Jackson Green	Rutherford	1892
John Thomas Hicks	Durham	1892
John Howard	Edgecombe	1892
William Colbert Jackson	Pitt	1892
Paul Vance Matthews	Halifax	1892
Robert Graham Mewborne	Lenoir	1892
Tilon Vance Moore	Brunswick	1892
Paul Hampton Stanley	Wayne	1892
Van Dalen Stronach	Wake	1893
Mark Rodgers Vick	Northampton	1892
Emil August Wessell	New Hanover	1892
Levi Romulus Whitted	Alamance	1893
Henry Lloyd Williams	Gates	1892
Amme Anerol Wilson	Gaston	1892
Webb Chitmond Yarbrough	Caswell	1892

IRREGULARS.

William Johnson Carter	Wake	1893
William Henry Hughes, Jr	Wake	1893
Roscoe Nunn	Craven	1894
Henry Wilson Sanders	Pasquotank	1894
Thomas Jehu Smithwick	Bertie	1892

SOPHOMORE CLASS (55).

Name.	*County.*	*Admitted.*
Frank Allen	Wake	1894
William Manly Baker	Edgecombe	1893
Edward Graham Battle	Edgecombe	1893
Joseph Samuel Buffaloe	Wake	1893
John William Carroll	Wake	1892
Frank Juinor Church	Vance	1893
Charles Edward Clark	Mecklenburg	1890
Wm. Alexander Graham Clark	Wake	1894
Nicholas Louis Gibbon	Mecklenburg	1893
Charles Helsebeck Griffith	Forsyth	1893
James Harper	Caldwell	1893
Cebern Dodd Harris	Wake	1893
Edmund Jerry Ingram	Montgomery	1893
Joseph Peace Jenkins	Franklin	1894
John Arthur Jones	Person	1893
Clarence Haywood Joyner	Northampton	1893
Thaddeus Otis Joyner	Northampton	1893
Clyde Bennett Kendall	Anson	1893
Sidney Gustavus Kennedy	Lenoir	1893
George Kirby	Sampson	1893
Joseph Lawrence Knight	Edgecombe	1889
Frederick Creecy Lamb	Pasquotank	1893
Angus Ferguson Lytch	Richmond	1893
James Tillman McGregor	Anson	1893
Walter Jones McLendon	Anson	1893
Repton Hall Merritt	New Hanover	1893
Wylie Thomas Mosely	Lenoir	1893
Joseph Aldine Moss	Granville	1894
Albert Hicks Oliver	Duplin	1893
Maurice James O'Neil	Vance	1894
George Langdon Peterson	Sampson	1893
William Burt Philips	Nash	1893
Hugh Williams Primrose	Wake	1893
Samuel Marvin Riddle	Wake	1893
Willis Hunter Sanders	Harnett	1893
James McKimmon Saunders	Pitt	1894
Charles Marvin Sherrill	Catawba	1894
James Alexander Sinclair	McDowell	1893
James Leigh Skinner	Wake	1893
Mark Squires	Union	1892
George Frederick Syme	Wake	1893
Lawrence Butner Thomas	Davidson	1893

Name.	*County.*	*Admitted.*
Lea Watson	Wake	1893
William Fowle Welborn	Davidson	1893
Joel Whitaker	Wake	1893
Bradley Jewett Wootten	New Hanover	1893
George Arlington Wright	Robeson	1893

IRREGULARS.

Dossey Battle, Jr.	Edgecombe	1893
Charles Hinton Belvin, Jr	Wake	1892
Robert E. Darden	Guilford	1894
Jere Eustis Highsmith	Sampson	1891
Angus Alexander Leach	Wilkes	1892
Robert Pinckney McCracken	Haywood	1893
Nathan Snowden Perkins	Anniston, Ala	1894
Charles Henry Zoeller	Edgecombe	1893

FRESHMAN CLASS (100).

Name.	*County.*	*Admitted.*
John Erastus Albritton	Greene	1894
Sydenham Brevard Alexander, Jr.	Mecklenburg	1894
Thomas Winslow Alexander	Mecklenburg	1894
Charles Skinner Allen, Jr	Wake	1893
Samuel Benjamin Alsop	Halifax	1894
Esley Offilt Anderson	Iredell	1894
Dorsey Frost Asbury	Gaston	1893
Irvin Sidney Bagwell	Wake	1894
George Mitchell Baldwin	New Hanover	1894
George Thomas Barksdale	Sampson	1894
Robert Marriatt Battle	Edgecombe	1893
George Leander Beall	Caldwell	1894
Sidney Hamilton Beck	Burke	1894
James Reuben Benson	Hyde	1894
Robert Vance Brawley	Iredell	1894
Hugh Cecil Brooks	Pitt	1894
Clarence Brown	Duplin	1894
John Cole Burwell	Mecklenburg County, Va	1894
Daniel Worden Busbee	Sing Sing, N. Y	1894
Hugh Clement	Davie	1894
William James Clement	Granville	1894
Howell Cobb	Nash	1894
Whitfield Cobb	Wake	1894
Albert Sidney Coffield	Martin	1894
Anson Elkin Cohoon	Pasquotank	1894

Name.	*County.*	*Admitted.*
HERBERT BANATINE CUNINGHAM	Person	1894
FRED CHARLES DOYLE	Wake	1894
NATHAN DANIEL EDMONSON	Edgecombe	1894
ZEBULON VANCE FAGAN	Martin	1894
BENJAMIN CAREY FENNELL	Wake	1894
JAMES BUCHANAN FORD	Wake	1894
LEWIS FORNEY	Rutherford	1893
DORSON BEVERS FOSTER	Wake	1894
DAVID BRYAN FOY	Wake	1894
GEORGE BLACKNALL FURMAN	Buncombe	1893
FRANK PORTER GATLIN	Edgecombe	1894
OSCAR HENRY GIDDENS	Sampson	1894
JESSE WESTON GILL	Wake	1894
RUFUS MCCAWLEY GWYN	Caldwell	1893
WILLIAM BRADLEY HANFF	Craven	1894
WILLIAM HENRY HAYWOOD	Jones	1894
JOHN MADISON HODGE	Wake	1893
ROBERT GUY HODGES	Lenoir	1894
WILLIAM CULLEN BRYANT HOFFMAN	Gaston	1894
JONATHAN MARION HOPKINS	Rockingham	1894
BAXTER JOHNSON HUNTER	Mecklenburg	1894
JOSEPH FREDERICK HUNTER	Halifax	1894
BENJAMIN BELL JACKSON	New Hanover	1894
JUDSON GAYLE JENKINS	Wake	1894
HARVEY JOSEPH JOHNSON	Wake	1894
KIMBROUGH JONES, JR	Wake	1894
ALPHEUS ROUNTREE KENNEDY	Lenoir	1894
RUFUS WALTER KING	Wake	1894
AUGUSTUS MARION LEWIS, JR	Wake	1893
ERNEST MCKEE LOUGEE	Wake	1893
ENOCH LUDFORD, JR	Washington	1894
JNO. COOPER STEADMAN LUMSDEN, JR.	Wake	1894
THORNTON BUTLER MATHEWS	Buncombe	1894
SIDNEY FRANKLIN MAUNEY	Rowan	1894
JOHN DUNCAN MCGREGOR	Anson	1894
ROBERT EDWARD MERONEY	Rowan	1894
JOHN HOWARD MILLER	Sing Sing, N. Y	1894
MASON MITCHELL	Tappahannock, Va	1894
FERNANDO ZOLLIE MORRIS	Henderson	1894
EDWIN BENTLEY OWEN	Davidson	1894
MOORE PARKER	Wake	1894
PAUL BLAIR PARKS	Cabarrus	1894
DAVID EMSLEY PATTERSON	Orange	1894
FREDERICK SHEPPARD PEARSON	Polk	1894

Name.	*County.*	*Admitted.*
JOHN WARD PHILIPS, JR	Edgecombe	1894
WILLIAM HOWARD PICARD	Northampton	1893
JOHN ERNEST RAMSAY	Rowan	1894
VERNON BADHAM RAMSEUR	Henderson	1894
ROBERT PERCEVAL READE	Person	1894
ALBERT EUGENE ROUNTREE	Lenoir	1894
RICHARD GIBBS SATTERWHITE	Vance	1894
BERTRAM SHEPHERD	Richmond	1894
THOMAS SKINNER SIMPSON	Wake	1893
PAUL DURWOOD SMETHURST	Wake	1894
ISAAC HALL SMITH, JR	Halifax	1894
NATHANIEL COCKE SMITH	Halifax	1894
HENRY HOLLAND SPRINGS	Davidson	1894
NUMA REID STANSELL	Robeson	1894
ARTHUR MARVIN SUTTON	Wake	1894
TEISAKU SUGISHITA	Kokufu, Japan	1894
JAMES LEAVY SWINDELL	Wake	1893
RALPH BINGHAM SYKES	Orange	1894
CLARENCE S. SYLIVANT	Greene	1894
THOMAS FULLER TERRELL	Wake	1893
SAMUEL JULIUS TURNER	Anson	1894
DALMA OZARK UZZLE	Wake	1894
CLAUD VANN	Johnston	1894
JAMES RICE WATSON	Hertford	1894
WALTER LUCAS WEAVER	Northampton	1893
WILLIAM MCRAE WEBSTER	Richmond	1894
CHARLES WHITAKER	Warren	1894
HARRISON BOYD WILLIAMS	Wake	1894

IRREGULARS.

JOSEPH NORMAN IVES	Pasquotank	1894
CHARLES WATSON PETTY	Guilford	1894
PAUL CARAN WILLIAMS	Gates	1894

SUB-FRESHMAN CLASS (29).

Name.	*County.*
SHEROD PERCY BARKSDALE	Sampson.
ZEBULON VANCE BLOUNT	Sampson.
WILLIAM MCDOWELL BURGIN	McDowell.
JUNIUS LONG CAPEHART	Vance.
RONALD ORLANDO CREDLE	Hyde.
ROBERT ALLEN DARDEN	Greene.

Name.	*County.*
John Fennell	Wake.
James Clarence Freeman	Alamance.
Edward Wood Hall	Halifax.
Oliver Percy Hicks, Jr	Rutherford.
Lucius James Holland	Gaston.
Albert Boyd Homesley	Mecklenburg.
Edward Ross Hunter	Mecklenburg.
Edward Tunnel Jennette	Hyde.
Samuel Cabe Johnston	Orange.
Edward Warren Jones	Hyde.
George Luther Lyerly, Jr	Rowan.
Edgar Guy Petty	Gaston.
Jay Victor Query	Cabarrus.
Archie Willie Railey	Hertford.
James Robertson Russell	Lenoir.
Louis William Smith	Cabarrus.
William Ashley Stevenson	Wake.
Willard Chase Tomlinson	Durham.
Luther James Underwood	Wake.
George Clifford Uzzle	Johnston.
Darius Samuel Waitt	Wake.
John Edgar Wall	Johnston.
Edgar Calvin Yarbrough	Caswell.

. . . COMMENCEMENT 1894 . . .

ANNUAL ORATION

BY

HON. FABIUS H. BUSBEE, Raleigh, North Carolina.

BACCALAUREATE SERMON

BY

REV. W. S. CREASY, D. D., Charlotte, North Carolina.

GRADUATING CLASS.

Name.	*Degree.*	*Post-office.*
Charles Edward Corpening	B. E.	Lenoir.
David Cox, Jr	B. E.	Hertford.
Robert Donnell Patterson, Jr†	B. S.	Durham.
Charles Pearson*	B. E.	Saluda.
Zebbie George Rogers†	B. E.	Roxboro.
John Hyer Saunders	B. E.	Grimesland.
Benjamin Franklin Walton*	B. S.	Raleigh.
John McCamy Wilson	B. E.	Sheva.

WITH THE DEGREE OF M. S.

Frank Theophilus Meacham (B. S. '93) Raleigh.
Major Course, Agriculture.

---

* With first distinction in course.
† With second distinction in course.

HONOR ROLL 1893-'94.

SENIOR CLASS.

Charles Pearson	Saluda, Polk County.

JUNIOR CLASS.

James Adrian Bizzell	Fayetteville, Cumberland County.
Walter Austin Bullock	Williamsboro, Vance County.
Howard Wiswall, Jr.	Winsteadville, Beaufort County.

SOPHOMORE CLASS.

George Stronach Fraps	Raleigh, Wake County.

FRESHMAN PRIZES IN AGRICULTURE.

Medal	Sidney Gustavus Kennedy	Lenoir County.
Ten-Dollar Prize	Charles Edward Clark	Mecklenburg County.
Five-Dollar Prize	James Samuel Buffaloe	Wake County.

THE NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS

Was founded under act of the General Assembly of March 7, 1887, and was first opened for the reception of students October 2, 1889, since which time its growth has been steady and its work thorough.

The support of this College is derived chiefly from the Treasury of the United States in the shape of funds arising from the sale of public lands, thus inflicting no burden of taxation on any citizen. These acts were passed July 2, 1862, and August 30, 1890, and require the funds granted by them to each State to be applied to the " endowment, support and maintenance of at least one College, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to acriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and ptofessions in life."

The Jews, in scriptural times, taught each boy a trade, in addition to such mental training as they thought advisable. It was a wise provision.

Some of the very best thinkers of our own time, in this and other countries, have acknowledged the advantages of intelligent manual training of boys and young men in well equipped schools, and institutions of this kind are now being recognized as among the practical necessities of every commonwealth.

In all branches of industry the competition of the world is bringing about a closer margin of profits, and a demand is made upon men of every calling to study the very best methods and closer economy in first production. The whole trend of such instructions as we are now commencing is calculated to work out such economic results.

In an agricultural and mechanical college the student is taught to know that work is honorable, and manual labor becomes a pleasant task when performed under the encouraging eye of teachers whom the students recognize as men of ability. The labor is diversified by a proper development of the thinking and reasoning powers, and the tasks *assigned* are not so long as to prove irksome.

There is no conflict between the technical education which will be given by the agricultural and mechanical college and the established colleges and the University of the State. Taking our College as one department of learning, and the above named institutions as another, their spheres are widely different, and they should be of practical benefit each to the other, and both to the commonwealth

North Carolina is blessed by Providence with the underlying elements of prosperity in every direction; in all of the principal crops grown in the entire country; in the capabilities of so many sections for successful cattle-raising and the production of dairy products; in its truck interests, fruit and small fruits; in its ores and minerals, its lumber and hardwoods, and in its abundant facilities for manufacturing interests of various kinds.

Brains, *skill* and WORK are needed to develop these interests, and the College proposes to do its full part in the education of the youth of the State, as far as it can reach them, in these all-important factors.

To make agriculture profitable is one of the great problems of the age. With its collateral pursuits, it not only has been, but always will be, the most important industrial calling of mankind.

As North Carolina is essentially an agricultural State, the Legislature has acted wisely in its conclusion to aid the interests of so large a class of its citizens by the creation of an agricultural and mechanical college, in which the very best methods and results can be studied and worked out, practically as well as theoretically.

Full courses of everything relating to the economy of the farm, including, of course, the utilization of waste, will be thoroughly studied.

Then, too, the State therein lends a helping hand to such of its youth as may desire to engage in mechanical callings of all kinds.

The College is intended not to produce theorists, but practical young men, who will become intelligent farmers, horticulturists, cattle and stock raisers, dairymen—men who will be interested in their work and who will make their work profitable.

The State also has need of good mechanics, carpenters, draughtsmen, contractors, manufacturers, architects, civil and mechanical engineers, and the College will help to make them.

In conclusion, while the College will give practical instruction to as many of our youth as it can accommodate, it is made the duty, as it will be the pleasure of the members of the Faculty of the College, to take an active part in farmers' institutes, which are accomplishing so much of good in many States in the Union, and which have happily been inaugurated by the Board of Agriculture and by the farmers themselves in our own State.

The professors will be at the service of the farmers of the State whenever they can impart such special information as may be sought at their hands. They will be glad to furnish the best methods of building and filling silos, of planning barns, stables, etc. They will also be expected to investigate and furnish thoroughly approved formulas for remedies in diseases of cattle, for destruction of insect pests, formulas for composting, etc.

COURSES OF INSTRUCTION.

The three general courses of study offered in this institution are in Agriculture, in Mechanics and in Applied Science.

In the *Freshman year* the work of the students in these courses *is the same*, and consists of Mathematics, English, Physics, Chemistry, Physiology, Botany, History and Agriculture in the class-room, and practice work in the field, greenhouse, carpenter-shop, drawing-room and physical laboratory. At the beginning of the Sophomore year the courses begin to specialize, and the student selects the one best fitted to his needs. With each of the higher classes more time is given to the technical studies of the course.

THE COURSE IN AGRICULTURE.

The technical work of this course is included in the departments of Agriculture, Horticulture and Chemistry, in either of which the student may make his thesis for grauation.

We endeavor to keep in view the fact that the course is not intended as a training-school for farm laborers, but for fitting young men for intelligent work in Agriculture, either on the practical side in directing the great army of uneducated muscle in the field or greenhouse, or on the more scientific but none the less valuable side as workers in the laboratories of Agricultural Chemistry or Botany.

The manual labor is performed during the practice hours, is only such as is considered necessary and instructive, and does not consist of mere drudgery, of which most of the students know enough already before their admission. While taught that no labor is beneath the dignity of a thorough farmer when necessary, the chief effort will be to form habits of close observation and economical administration, and to inculcate broad ideas as to the possibilities of American agriculture, and thus send them out as *leaders in improvements* instead of mere followers in ruts of other men's making.

THE COURSE IN MECHANICS.

The technical work of this course is included in the departments of Mechanics, Applied Mathematics, and Physics, in either of which the student may make his thesis for graduation.

This is not a trade school, and it is of course not expected that our students shall necessarily adopt a trade; but if any should desire to do so, the training given here in the principles underlying all mechanical trades, as well as in their application, will make smooth the way and give the right start to all students who can remain but one or two years, preferring then to take up a trade rather than to work on to the graduating degree, which will give them position as civil or mechanical engineers.

An examination of the work for each year. as shown in the table at the end, will give an accurate idea of the qualifications of each student at any given point in the course, whether his purpose may be to adopt a trade, or only to direct with intelligent skill operations of his own business, or to seek employment in the highest branches of engineering.

THE COURSE IN APPLIED SCIENCE.

The work of this course, outside of the general studies required, is largely elective, the subjects being included under the departments of Entomology, Zoölogy, Botany, Chemistry, Physics, Applied Mathematics, etc. The graduating thesis may be made in either of these departments. The full time given to practice work in the other courses is required in this.

POST-GRADUATE WORK.

Post-Graduate courses have been established, leading to the degrees of Master of Science (M. S.) and Mechanical Engineering (M. E.). For the Master's degree the major subject may be taken in the Department of Agriculture, Horticulture or Chemistry. The minor courses offered are Agricultural Analysis, Organic Synthesis, Vertebrate Zoölogy, Veterinary Science, Cryptogamic Botany, Invertebrate Zoölogy, and Electricity, two of which must be taken. For the degree of M. E. the major subject and one minor must be taken in the Department of Mechanical Engineering, and the second minor in Electrical Engineering.

A thesis, embodying the results of some original investigation, must be submitted and accepted before the final examinations are taken.

The studies in each will be carefully adapted to the expansion and development of the special lines of study selected by graduate students for a professional calling.

IRREGULAR WORK.

Students, otherwise qualified, may be allowed to elect certain studies from the regular courses already provided in the College, if no inconvenience result to the members of the regular classes.

SUB-FRESHMAN CLASS.

A sub-Freshman class has been organized to give special preparation to such young men as are unable to enter the Freshman class, and who nevertheless desire a technical education. No county will be allowed to have more representatives in this class than it has in the House of Representatives of the General Assembly.

* * *

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. B. IRBY, M. S.

ASSISTANT PROFESSOR, ...	F. E. EMERY, B. S.
FARM SUPERINTENDENT, ...	B. S. SKINNER.
INSTRUCTOR IN VETERINARY SCIENCE,	DR. F. P. WILLIAMSON.

The instruction in this department is so arranged that the students taking the course will be able to fit themselves for not only the details of farm work, but for managing farms as well. An effort is made to so blend the practical with the theoretical that a student will know *how* a thing is done, as well as *why*. The students have the following course in the lecture-room and field:

The Freshman Class has three months in "First Lessons in Agriculture," and three months in physiology. Their practice work consists in laying off ditches and terraces, constructing same, and cultivating crops, etc.

In the Sophomore year they have lectures on hygiene of the farm, drainage, description and use of farm implements, cultivation and harvesting of crops. They also have an advanced course in physiology and anatomy. Practice work the entire year correlates with their class-room work.

The Junior Class has zoölogy, lectures on veterinary science, and dairying. The latter includes selection of dairy herds, development of herds, calculation of feed rations, milking, ripening of cream, use of separator, churning, etc., keeping records and tests of cattle, calculation of milk values from tests, location of permanent pastures, and rotation of crops best suited to our State for dairy herds. Practice work the entire year consists in feeding, milking, care of cattle, and dairy work generally.

The Senior Class has theoretical and practical instruction in tile drainage—everything from reconnoitering the ground to laying the tile. A course in meteorology and its relations to the farm is also given. They have, too, a course of lectures serving as a capstone for the four-year course. These lectures treat of farm economy, plan of work, special farming, diversified farming, growing supplies at home, organizing the farm, arrangement of buildings, location of fields, care of stock, etc., science as applied in feeding, nutritive and manurial value of feed-stuffs, care and use of manures and commercial fertilizers, rotation of crops and renovation of soils. The class has practice work the entire year. This, with a thesis for commencement, completes the course.

A Post-Graduate Course has been provided, and students taking same are given special instruction in studies pertaining to agriculture, and, in addition, regular work on the farm.

The practice work during the four years is not paid for, as it is considered a part of the instruction, but work done voluntarily by the students is paid for at the rate of seven cents per hour. They are encouraged to work as much as possible, and, as the work is done under the supervision of the Professor of Agriculture and the Superintendent of Farm, it is instructive as well as remunerative. Thus, many of them are enabled to pay a great part of their expenses with their own labor. It is a noticeable fact that the boys who work well stand high in their classes. The Experiment Station is always open to students for investigation and instruction.

The equipment of the farm is as follows: Large basement barn, 50 x 72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain-bins, etc.; third story, by hay, which is elevated by Ricker & Montgomery hay carrier. Just outside of the barn there is a seventy-ton circular silo. This is connected with a No. 18 Ohio Standard feed and ensilage cutter. The power for cutter is supplied by an eight-horse-power Skinner engine.

The dairy building is commodious, having two large and one small room on first floor, besides the cellar. The upper story is occupied by the Agricultural Society, where they meet every Saturday night. The dairy is supplied with separator, Babcock tester, and other implements for running a dairy. The cellar is cemented and has a cemented aqueduct on one side, through which flows 1,800 gallons of water per day, fed by springs from above. This is for ripening cream and water-supply.

The live stock consists of two Percheron mares, two mules, two Jersey cows, seven grades, one Holstein bull and three cows, one Devon bull and three cows, one Brown Swiss bull and two cows, one Aberdeen Angus bull and two cows, one shorthorn bull and two cows, one grade Guernsey cow, one grade Ayrshire cow, three common cows, and seventeen pure-bred Poland-China hogs.

The field crops are corn, cotton, ensilage, stock beets, peas, potatoes, hay, clover, oats, rye, soja beans, grasses, etc.

It is the endeavor of all to make practical farmers of all the agricultural students, and not visionary theorists.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROFESSOR MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but Systematic Botany will also receive due attention. It will not be taught by the mere memorizing of dry definitions, but by a practical study of the characteristics of plants upon which classification is founded.

Those who complete the whole course will receive instruction in all the branches needed by a professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road-working, the construction of horticultural buildings, and forest improvement.

COURSE OF STUDY.

FRESHMAN YEAR—*Spring Term.*—Elementary study of plant structure with Text-book and explanatory lectures on plant life, and study of natural forms.

SOPHOMORE YEAR.—Practical study of Pomology, with field lectures and practice in budding, pruning, grafting and propagating in open ground; Invertebrate Zoölogy and Entomology; Systematic Botany in Spring Term.

JUNIOR YEAR.— Vegetable Histology with Compound Microscope, Lectures on Physiological Botany, Forestry and Palæontology; Laboratory study of Cryptogams in Spring Term.

SENIOR YEAR —Lectures on Landscape Art, Road-making, Horticultural construction, and commercial culture of vegetables and flowers in open ground and under glass; Practice in greenhouse management and cross-fertilization.

THESIS.—In the Junior year each student will be furnished with a compound microscope and must make a deposit, at the beginning of each year, of three dollars for materials and reagents used, any unexpended balance of which will be refunded at the end of the year. Instruments furnished by the College, but losses and breakage must be made good by student.

In the Freshman and Sophomore years a deposit of fifty cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession will be given special opportunities in the Senior year to become experts in greenhouse work and propagation. The College and Station

Greenhouses and Exotic Grapery give particular advantages for this.

Post-Graduate Course.—The major study for the Master's Degree will be Practical Horticulture in all its branches, with a course of reading under direction of Professor; Minors, Invertebrate Biology and Cryptogamic Botany.

Course in Science.—Students in the Scientific course will follow the exact line of work as those in the Agricultural course to the end of the Junior year. The Senior year in this course will be devoted to general Biology and Bacteriology. The Laboratory deposit for this year will be $5.

DEPARTMENT OF CHEMISTRY.

PROFESSOR WITHERS.
MR. ASBURY. MR. BIZZELL.

The Chemical Laboratories are supplied with fume closets, evaporating baths, drying chambers, blast lamps and extra tile-covered tables. The tables are of yellow-heart pine, with oak tops. Each student is provided with one large and two small drawers and one cupboard for keeping apparatus. Each working space is provided with gas, distilled water, reagents and a sink. The Laboratory of Quantitative Analysis will accommodate thirty-two students, sixteen of whom may work simultaneously; and the Laboratory of General Chemistry will accommodate fifty-six students, twenty-eight of whom may work simultaneously.

The Chemical Library contains a carefully selected list of standard reference books and chemical journals.

While the ultimate aim of the work is towards the application of the science to Agriculture and Technology, and the preparation of the student for a career as a chemist, yet the fact is fully appreciated that this is most successfully realized when the work is based on a broad knowledge of the pure science.

The Freshman Class has for its work a brief introduction to General Chemistry and its relations to the air, soil, plant and animal, following the order of Roscoe's Primer and Lupton's Scientific Agriculture.

The Sophomore Class has Inorganic Chemistry (Storer & Lindsay). The common elements and their principal compounds are studied, with some of the fundamental principles of the science. Due attention is given to Stoichiometry.

The class-room work consists of lectures, accompanied by full experiments, and the exhibition of specimens, to which reference is made. Daily recitations are held on the matter of the previous lecture.

In the Laboratory the student repeats for himself, under the eye of the instructor, the experiments performed in the lecture-room, and records the results and his explanation of the changes that have taken place. Cooley's Guide is followed. The latter part of the year is devoted to Qualitative Analysis (Caldwell).

The Junior Class has Agricultural Chemistry (Mayer). Attention is given to a consideration of the atmosphere as a plant-feeder; the mineral and organic constituents of the plant, and their functions; the soil and its relation to the plant; means of improving the soil; the preparation of manures and composts; green manuring; the composition of fodder, and the different means of curing and preserving; animal chemistry; stock feeding; chemistry of butter, of milk, etc. Qualitative Analysis is finished, and also an introductory course in Quantitative Analysis (Caldwell). In the Laboratory courses the student is required to be able not only to make correct separations, but to know the reasons for the changes, reactions involved, etc., and to test this knowledge frequent recitations are held.

The Senior Class studies Organic Chemistry (Remsen), Theoretical Chemistry (Meyer), and Historical Chemistry

(Venable); and in the Laboratory the time is devoted to the analysis of fertilizers, feeding-stuffs, milk, butter, etc.

For Post-Graduate students courses of reading are assigned and the student required to submit papers on the same. Laboratory work is continued along the line of Agricultural and Technical Analysis and Organic Synthesis (Orndoff).

The Berzelius Society meets fortnightly for the discussion of the chemical journals and other chemical subjects.

DEPARTMENT OF PHYSICS.

LIEUT. RICHARD HENDERSON, U. S. NAVY.

Instruction in Elementary Physics is given to the members of the Freshman Class. The recitations are illustrated by full experiments in the Laboratory.

Text-book: Gage's Elements of Physics.

JUNIOR YEAR.

The class instructed in Electricity and Magnetism entire year. Practical problems, requiring full knowledge of text studied, are to be solved and explained by students at each recitation.

Text-books: Thompson's "Elementary Lessons in Electricity and Magnetism;" Day's "Electric Light Arithmetic."

SENIOR YEAR.

This class will study Electrical Engineering and will carry on a progressive course in testing in the Laboratory. The course will include Dynamo Designing, the practical Wiring of Buildings, and the practical Winding and Construction of Armatures and Field Magnets of Dynamos and Motors, Electric Welding and Electro-Metallurgy.

Text-books: Kempe's "Electrical Testing" and Thompson's "Dynamo Electric Machinery."

The college buildings are lighted by electricity, a compound-wound direct-current Multipolar Generator being used for the purpose. The Senior mechanical students have charge of this plant, and do the practical work of running the engine and tending dynamo.

During the coming year, it is hoped, a complete storage battery plant will be added to the equipment of this department.

DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

PROFESSOR RIDDICK.	MR. PARK.
MR. PRITCHETT.	MR. YARBROUGH.

In this department the aim is to combine the theoretical with the practical in such a manner as to fit the student to do the work of an engineer and designer, of a builder, or of a mechanic, according to his ability and proficiency in the course. From the beginning of the Sophomore year until the end of the course, the time of the student is divided almost equally between intellectual or class-room work and practical work. By class-room work is meant work in those subjects of general education given to the student in all the departments, and also the theoretical discussion and investigation of those subjects that pertain particularly to matters of mechanics and engineering.

The course, as laid out, is intended to give to those who complete it, such a general and broad knowledge of the subject of mechanics and engineering, and such skill in the use of tools and instruments and in the management of machinery, as will enable a graduate to be prepared to enter upon and make a specialty of any line of work pertaining to mechanics or engineering that he may choose.

In addition to his theoretical training, the student is given a most thorough and careful practical training in the use and care of tools and machinery. He is made a good workman in both iron and wood.

The class-room work in this department will be as follows:

SOPHOMORE YEAR.

Mechanics.—This includes the study of the different methods of transmitting motion and force from one machine, or part of a machine, to another by means of gear-wheels, belts and pulleys and shafting. The students will be taught how to proportion gear-wheels and pulleys in order to obtain certain velocity ratios, and to "lay out" and put up a line of shafting.

As far as possible, this subject will be made clear and plain by explanations in the shop building.

Buildings and Building Materials.—This is lectures upon buildings and structures and the materials which enter into them. The students are taught the names of the different parts and the correct methods of making and fixing each in its relation to the others. They are also taught to make estimates and bills of materials.

JUNIOR YEAR.

Steam and Steam Machinery.—This is a study of engines and boilers, and steam plants in general. A text-book will be used. Work will be done with the engine and boiler. The students will learn to fire the boiler and tend the engine.

Graphic Statics.—The student learns to determine the stresses in framed structures, bridge and roof trusses by the graphic methods.

Surveying.—During the winter the students will confine their attention to a theoretical study of the principles of surveying, and in the spring they will be taken into the field and made to make a practical application of their theoretical knowledge by surveying and laying off land.

Each student will be required to plot and work up his field-notes.

SENIOR YEAR.

Applied Mechanics.—This is the application of the mathematical knowledge of the student to the investigation of the effect of forces upon bodies and structures, and the resistance of engineering materials to stresses of various kinds.

Bridges and Roofs.—The students are here taught the analytical methods of determining the stress of the various members of a roof or a bridge-truss when subjected to varying loads. They are also taught the methods of proportioning the members of a truss so as to resist the stresses with the least expenditure of material.

Lectures.—During the year one hour per week will be devoted to lectures upon the Strength of Materials and Designing, with special attention to the Designing of Structures and Plants for particular purposes; and, if possible, some time will be devoted to Water-works, Sewerage, etc.

FIFTH OR GRADUATE YEAR.

This department offers facilities for one year of post-graduate work in Mechanical Engineering, leading to the degree of M. E. The course is open to our own graduates and those of other institutions with equivalent requirements for graduation. The course of study is to some extent flexible, admitting of slight changes to suit the needs of the individual student. It consists, in general, of a more thorough study of Mechanics of Materials, Mechanics of Machinery, and Machine Design, including designs for shops and power stations; Steam Heating and Ventilating in detail, and the elements of Railway Engineering. Before graduation, each student will be required to prepare a paper containing a critical review of some mechanical construction, or a complete mechanical design.

PRACTICAL WORK IN THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

During the Freshman year the students in both the Agricultural and Mechanical courses work four hours a week in the carpenter-shop. The work consists of a number of exercises by which the student is taught the use of carpenter's tools. Towards the end of the year's work each student is required to make some article which will test his workmanship and at the same time be useful. Each student is furnished with a set of carpenter's tools, which he is required to keep in order and return to the Professor or his assistant at the end of the year's work.

The work of the Sophomore Class in the forge-shop consists of a number of graded exercises by which the students are taught to work in iron and steel. The students begin by forging simple shapes out of lead, in order that they may acquire skill in the use of the various tools. They are then taught how to build and tend the fire and to heat iron. When they can do this they forge simple shapes out of hot iron. They learn to "bend," to "draw," to make "scarfs" and to weld round or rectangular pieces of iron.

After they have acquired some skill in working with iron, they are taught to work with steel and to temper it, and are given a short course in tool-making.

During the Fall and Winter terms, the Junior Class works ten hours per week at wood-turning and pattern-making. They work with each machine in turn and learn to use all well. They take turns in tending to the machinery, shafting and belting, and are given a course in pattern-making the last part of the year.

The students of the Junior Class take turns in firing and tending to the boiler, and also in tending to the engine. Whenever the class is at work in the shop, one of the students is firing and tending the boiler and another is looking after the engine.

In addition to the regular course of exercises, the students of the Junior Class are called upon to make boxes, cupboards, shelves, drawing-boards, etc., and to do such work as may be necessary for the department or the College.

During the Senior year the students work ten hours a week in the machine-shop, where, under the supervision of skilled practical machinists, they learn to use the machines and tools ordinarily found in a machine-shop. Here, as in the other shops, the work consists at first of graded exercises, designed to teach, as thoroughly as possible, the use of each machine. When the students have learned to use these machines with a reasonable amount of skill, they are put to work upon some piece of machinery which will be of use to the College.

All work is done from drawings. A drawing of the exercise to be made is hung up in the shop, and each student makes a copy of it, putting on all the necessary dimensions and notes. This copy is then submitted to the instructor, who makes such corrections and alterations as are necessary and then returns it to the student, who proceeds to make the exercise from this drawing without having seen the object that the drawing represents.

When an exercise is given to the class, the instructor explains where and how the work illustrated by that particular exercise is used in practical construction.

DRAWING.

During the Freshman year all the students in the College take a course in drawing. The drawing of this year consists of free-hand sketching, a course in lettering, and the elements of mechanical drawing.

After the Freshman year each student taking the Mechanical Course will have drawing one hour a day, or what will be equivalent to that time. Each student will be taught to make complete and full plans, elevations, sections and details of work and machinery already built and set up. The students will be taught the conventional signs and symbols used in drawing, and all drawings will be marked, lettered and finished as if they were to be used in a regular manufacturing establishment. Students will be required to make tracings of some of their drawings, and from the tracings they will take blue prints. After the student has entered the Senior Class he will then be required to make drawings of one or more original designs.

As far as possible the work in the drawing-room and in the shop are made to supplement one another. In the shop the students make objects from drawings, and in the drawing-room they for a long time confine their attention to making drawings of objects that already exist.

In this way they will be taught not only to work from and understand drawings, but also to express clearly their own ideas in the conventional language of the draughtsman.

EQUIPMENT.

The equipment of the mechanical department is as follows:

A commodious shop-building, on the first floor of which are the machine-shop, forge-shop, wood-turning shop, carpenter shop and a recitation room. On the second floor are two drawing-rooms, a recitation room and a reading room in which various scientific and technical journals are kept on file.

The machine-shop is equipped with a 25 horse-power Woodbury automatic cut-off engine which furnishes the motive power for the machinery throughout the building, a planer, milling machine, two engine lathes (13″ and 14″), a drill-press and emery wheel; also several vises and sets of tools for doing hand work.

The equipment for the wood-turning shop consists of ten 12-inch swing lathes, one saw and dado machine, one 20-inch pony planer, one mortising and boring machine, one 30-inch hand saw, one 6-inch "sticker," one grindstone, one mitering machine, and four benches equipped with iron vises and all necessary hand tools for pattern-making. Each lathe is equipped with the necessary turning chisels and tools.

The forge-shop is fitted up with twenty-three forges. Each forge is equipped with a water-tank, shovel and poker. For each forge there are provided the following tools: an anvil, hammer, steel square, tongs and hardy. In addition to these, there will be sledges, swedges, fullers, flatters, and hot chisels for general use in the shop.

The carpenter shop is equipped with thirty carpenter-benches and all the necessary tools for each bench. Each bench is provided with a cross-cut saw, rip-saw, back-saw, try-square, T-bevel, steel square, nail-hammer, mallet, marking gauge, screw-driver, oil-stone, zinc oiler, and a brush for dusting off the bench. These tools stay on the bench, and are used by any student who works at the bench. Only one student works at a bench at any one time.

In addition to the tools named above, each student, upon entering, has issued to him a jack-plane, ¾-inch chisel, ½-inch chisel, ¼-inch chisel and a slip-stone. These tools are used only by the student to whom they are issued, and he is held responsible for them.

In addition to the shop building, there is a boiler-house equipped with a thirty-horse-power boiler, which furnishes steam to the engine in the machine-shop and also to a small duplex Worthington pump, which supplies water to the various buildings on the grounds.

The drafting-room is furnished with thirty desks, and with each desk there is a T-square, set of instruments, rules and triangles. Each student is furnished a drawing-board.

In addition to the above, the College owns a transit, Y-level, compass, rods, chains, etc., a Thompson's Improved Indicator, Polar Planimeter and other instruments used in illustrating the work of this department.

DEPARTMENT OF MATHEMATICS.

ADJUNCT—PROFESSOR YATES.

It will be the aim of this department to give the young men a thorough and practical knowledge of Pure Mathematics. All students will be required to do as much supplementary work as time will permit, for no principle is well learned by a pupil and thoroughly fixed in his mind till he can use it.

The course in Mathematics begins in the Freshman year, and is completed by the students in the Mechanical Course at the close of the Winter Term of the Senior year. Agricultural students drop the study of Mathematics after having finished Trigonometry.

FRESHMAN CLASS

During this year it is our purpose to complete Arithmetic and Algebra to quadratic equations. The young men are required to solve the problems by neat and intelligent methods, and are kept free from set rules and formulas.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

SOPHOMORE CLASS.

This class completes Algebra during the Fall Term. The Winter and Spring Terms are devoted to plane and solid Geometry, with numerous exercises for original solution.

Every effort is directed to lead students to pursue these studies without feeling that they are characterized by arbitrary laws and mysterious processes; in other words, to work by reason, and not by rules and memory.

During the latter part of the year the class has two recitations a week in Trigonometry additional.

JUNIOR CLASS.

The first part of the year is spent in the completion of Trigonometry, with practical applications. The remainder of the session is devoted to Analytical Geometry.

Much exercise work will be done, since it is only by solving problems which require some degree of original thought that any real mastery of the study can be gained.

SENIOR CLASS.

This class will begin Calculus at the beginning of the session and complete the same by the end of the Winter Term.

ENGLISH DEPARTMENT.

PROFESSOR HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and with ease, and be an intelligent and appreciative interpreter of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is gradually adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

Four Recitations a Week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text-books: Lockwood's Lessons in English; Strang's Exercises. Parallel for 1895–'96: The Sketch Book, some of the De Coverley Papers.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by

a course in the elements of Rhetoric. In this course in Rhetoric, special attention will be paid to the analysis of themes and their subsequent elaboration, step by step. Much of this work will be done in the lecture-room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text-books: Lounsbury's English Language, Genung's Outlines of Rhetoric. Parallel for 1895–'96: For class-room, selections from De Quincey and Garnett's Prose.

JUNIOR CLASS.

Three Times a Week.

The first part of this year will be spent upon Logic and Logical Praxis. Afterwards the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it.

Text-books: Jevon's Logic, Gregory's Practical Logic, Genung's Rhetoric and Rhetorical Analysis, Lectures. Parallel for 1895–'96: Carlyle's Burns, Studies in Garnett's English Prose from Elizabeth to Victoria, two of Burke's Speeches.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. Some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for 1895–'96: Thayer's Select Plays will be used in class-work.

Text-books: Fiske's Taine's Literature, Hawthorne and Lemmon's American Literature, Lectures on Poetry, Garnett's and Thayer's Selections, Browne's Versification, Hudson's or Rolfe's editions of Shakespeare.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT—PROFESSOR YATES.

All students in the Sophomore Class will be required to take single-entry bookkeeping during the Spring Term.

The work in the text-books will be supplemented by numerous original examples and sets for practice.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLIDAY.

In this course students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern. They are taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort is directed towards teaching students how to read and to think, rather than to recite.

Instructions will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers, and Green.

Students will also be encouraged and guided in outside readings on special subjects, for which the College Library will afford ample conveniences.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

LIEUT. RICHARD HENDERSON, U. S. NAVY.

All students are required to attend the military drills and lectures.

Each student is required to devote three hours each week to drill.

Battalion drill on Wednesday and Friday afternoons.

Uniforms are required to be worn only on drill, and while on duty as officers-of-the-day, etc.

Target firing during months of May and June.

The Senior and Junior Classes are required to study the Army Drill Regulations and Manual of Guard Mounting. Lectures by the Military Instructor on Camping, Battle Formations, Cover, Firings, etc.

CADET OFFICERS OF BATTALION.

Company A.	*Company B.*	*Company C.*
Capt. C. M. Hughes,	Capt. J. A. Bizzell,	Capt. E. S. Darden,
1st Lt. H. Wiswall, Jr.,	1st Lt. W. K. Davis, Jr.,	1st Lt. L. B. Ennett,
2d Lt. S. C. McKeown.	2d Lt. C. W. Gold.	2d Lt. M. C. Patterson.

Lieut. and Adjutant J. C. Day.
Serg't-Major W. H. Harriss.
Lt. and Quartermaster W. A. Bullock.
Quartermaster-Serg't V. V. Privott.
Color-Sergeant G. W. Corbett, Jr.

One gray uniform is required. Cost, $16.85.

As a proper protection against cold and rain each student is required to have one gray water proof overcoat (mackintosh), which costs about $5.

LOCATION.

The original College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purposes of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from the corporate limits, the site is, in all respects, a suitable one. The ground slopes from the building in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about five years, and the land is being brought up mainly by judicious vegetable manuring. Eighteen acres adjoining the College on the west have been purchased, in addition to the original tract, and still more land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

The present building is of North Carolina brick, made and donated by the State Penitentiary by direction of the Legislature of 1887. The granite used is from the Rolesville quarry, in Wake County, and the brownstone from Wadesboro, Anson County.

The building is 170 by 60 feet, part one story and basement, and part three stories and basement.

Every precaution has been taken for good sanitary arrangement. The class-rooms and dormitories are large and well lighted, and the remaining rooms, such as dining-rooms, chapel, reading-rooms, etc., are well arranged.

A carefully planned brick workshop, erected in 1890 and enlarged in 1894, contains a machine-shop, forge-shop, wood-working-shop, carpenter shop, drawing-rooms, class-rooms, office and wash room, and is equipped for thorough work in every particular. We hope to add a foundry during the coming summer.

The dormitory rooms in the second and third stories of the College are well ventilated, wholesome and comfortable, and four substantial brick dormitories have been erected near the main College building. Others will be added as soon as possible, to supply the constantly increasing demand.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term. All students found deficient at Christmas, the close of the Fall Term, will be sent home.

The best time to enter college is at the beginning of the scholastic year, with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination unless they have already attended similar colleges, and had best wait till the begining of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand such examination as will show ample preparation for such higher classes as he may wish to undertake.

REPORTS.

Reports of scholarship and deportment are sent at the end of each term. In the grading, 100 is the maximum, 90 or over is considered excellent, 80 or over creditable. To pass, the student must make 60. In calculating the average for the term, each subject counts equally.

HONORS.

Students whose average for the three terms is 90 or more will have their names inserted in the catalogue on the honor roll.

On graduation, the student in the course in Agriculture whose average is highest will be awarded first distinction in the course in Agriculture, and the student whose grade is next will be awarded second distinction. In the same way first and second distinctions in the course in Mechanics are awarded.

The students attaining first distinction in the two courses will be given a place on the Commencement stage, together with three others selected by the Faculty.

DEGREES.

Two Baccalaureate degrees will be conferred. Upon those who have successfully passed their examinations in the various schools of the Agricultural course at the end of four years will be conferred the degree of Bachelor of Science. Upon those who, through four years, have done likewise in the Mechanical course the degree of Bachelor of Engineering will be conferred.

To postgraduates who have suecessfully passed examinations after a supplementary year's work the degrees of Master of Science will be given in the Agricultural Department, and the degree of M. E. in the Department of Mechanics. The fee for Baccalaureate Diploma is $3, and for Diploma for M. E., or M. S., $5.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The various Christian denominations are well represented in the student body, and all unite in a Young Men's Christian Association, which meets with regularity and exerts a beneficial influence throughout the College.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

TECHNICAL SOCIETIES.

The Agricultural Society, Mechanical Society, and Berzelius (Chemical) Society have been organized by the students taking most interest in these special departments of study. Their work consists in reviews of the various technical journals and in original papers.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about fifteen hundred volumes. It will be steadily increased by the purchase of standard works, and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

Reference libraries for the use of students have also been placed in the Departments of Agriculture, Horticulture, Chemistry, Mechanics, and English.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour.

PRIZES.

A gold medal of the value of ten dollars will be given to the Freshman student who most distinguishes himself in the agricultural work, and a second medal (or the money value thereof, ten dollars) to the student who, in addition to his class-work, earns most money by his skill in agricultural labor outside, and a third medal (or the money value thereof, five dollars) to the student who, in addition to his class-work, earns the next most money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities proportional demerit marks will be noted on the reports sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to strict account for them, since, if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through four entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants for the Freshman Class must be at least fifteen years of age; must furnish evidence of good moral character and physical development; must understand the forms and laws of their *own language fairly well*, and must be familiar with *arithmetic*, including the practical rules of the same, through fractions, and have a fair knowledge of *Geography* and *State History*. Applicants for the Sophomore Class must pass, in addition, an examination on the studies of the Freshman year.

COUNTY AND PAY STUDENTS.

The law provides for two kinds of students—county and pay. Each county is entitled to as many county students as it has members in the House of Representatives. This class of students is entitled to free tuition and lodging in college dormitories. There is no limit to the number of pay students, and these students will be allowed to lodge in college buildings. The expenses of a pay student are only $30 a year more than those of a county student. Young men desiring to enter as county students must apply to the Board of County Commissioners for such appointments; the College authorities cannot make them.

ADMISSION.

As soon as State county examiners are appointed arrangements will, it is hoped, be made with them to examine, for a small fee, all applicants for admission. This examination will be held at county seats on the first Saturday in August, and will be furnished by the College. But all young men wanting to enter can be examined at the College on the day before its opening. These will be held at the following hours: English, 9 A. M.; Mathematics, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M.

Examinations for conditional students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report at once to the President of the College.

Students who have passed the examinations for admission or for advancement to a higher class will report to the Secretary of the Faculty for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath students must attend the churches in Raleigh, subject to regulation of the President and Faculty, whenever service is not held in the College building.

Each occupant of a dormitory will be expected to keep his room, or section of room, in good order and ready for inspection at any time.

CLOTHING, ETC.

Each student is required to have one gray uniform suit, costing $16.85; one gray water-proof, costing not over $5, and one pair of blue cotton overalls, costing about 50 cents. Each student should bring a hair-brush and comb, and, if possible, a change of clothes for rough work on the farm or in the workshop; in any event, a pair of overalls for such work.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost.*

BOARD AND LODGING.

Board and lodging will be furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month and lodging as below stated.

Many students live in messes of their own, and thus reduce their expenses for board to less than $8 per month. Students wishing to live in these messes must file a written request from their parent or guardian.

Each student living in the College must bring with him a change of sheets and pillow-cases, four towels and two counterpanes, plainly marked.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1.	Tuition free.	
*2.	Board, at $8 per month, per session 9½ months	$ 76 00
3.	Fuel and medical attendance, but not medicine, for entire session	10 00
	Total	$ 86.00

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*When the students board at their own messes, their payments for board are not made to the College.

II. FOR OTHER STUDENTS.

1.	Tuition per session	$ 20 00
*2.	Board, at $8 per month, 9½ months	76 00
3.	Fuel and medical attendance, but not medicine, for entire session	10 00
4	For lodging in College building, room, furniture, bedding, etc	10 00
	Total	$116 00

Of these charges $13.75 and $16.85 for uniform must be paid upon entering College, and the remainder *in monthly installments, in advance.*

Each student must also deposit, on entering, a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Each student in Chemistry must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year. These breakages are seldom over fifty cents per year for each hour per week spent in the laboratory.

For deposit in Horticultural laboratory see that department.

All students must furnish their own oil, lamp chimneys, books, stationery, drawing pencils, thumb-tacks, and medicines, and arrangements will be made for them to get these at lowest cost.

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*When the students board at their own messes, their payments for board are not made to the College.

TABLE OF STUDIES.

FRESHMAN CLASS—FOR ALL COURSES.

	Fall.	*Winter.*	*Spring.*
Agriculture	--	--	2
Botany	--	2	2
Chemistry	2	--	--
Physiology	2	2	--
Physics	2	2	2
Mathematics	5	5	5
English	4	4	4
History	1	1	1
Physical Laboratory	2	2	2
Agricultural and Horticultural Practice	4	4	4
Shop	4	4	4
Drawing	3	3	3

FOR THE COURSE IN AGRICULTURE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	4	--	--
Agriculture	--	2	2
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1
JUNIOR CLASS.			
Agriculture	3	5	3
Horticulture	2	3	2
Agricultural Chemistry	3	3	3
Mathematics and Surveying	4	--	3
English	3	3	3
History	1	1	1
SENIOR CLASS			
Agriculture	5	5	5
Horticulture	4	4	4
*Org. and Theoret. Chem	3	3	3
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Agr. and Draw.	4	Agr.	4	†Agr.	2
Hortic.	4	Hortic.	4	†Hortic.	4
Chem. Lab.	4	Qual. & Quant. Anal.	6	Agr. Chem. Anal.	8

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† Agriculture or Horticulture may be substituted for this.

† Agricultural Chemical Analysis may be substituted for this.

FOR THE COURSE IN MECHANICS.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Architecture	3	--	--
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Graphic Statics and Mechanics	2	2	2
Steam and Steam Machinery	4	3	3
Electricity and Magnetism	1	1	1
Mathematics and Surveying	4	5	5
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Mechanics of Materials and of Machinery	2	--	2
Roofs and Bridges, and Construction	--	2	2
Machinery of Transmission	--	--	2
Analytical Mechanics	3	3	3
Electrical Engineering	1	1	1
Mathematics	4	4	--
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Chem. Lab.	4	Shop and Survey'g	10	Shop	10
Shop Work	6	Drawing	5	Drawing	5
Drawing	5			Electrical Testing	2

FOR THE COURSE IN APPLIED SCIENCE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	4	..	..
General Chemistry	3	3	3
Mathematics	5	7	7
English	3	3	3
History	1	1	1

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Elective	7	8	8
Mathematics	4	3	3
English	3	3	3
History	1	1	1

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Elective	11	11	11
English	3	3	3
History	1	1	1

PRACTICE WORK.

Sophomore.		*Junior.*		*Senior.*	
Chem. Lab.	4	Elective	15	Elective	15
Botany, etc	4				
Drawing	5				

CALENDAR.

1895.

Wednesday, January 2, Winter Term begins.
Friday, February 15, Announcement of subjects for theses.
Friday, March 22, Winter Term ends.

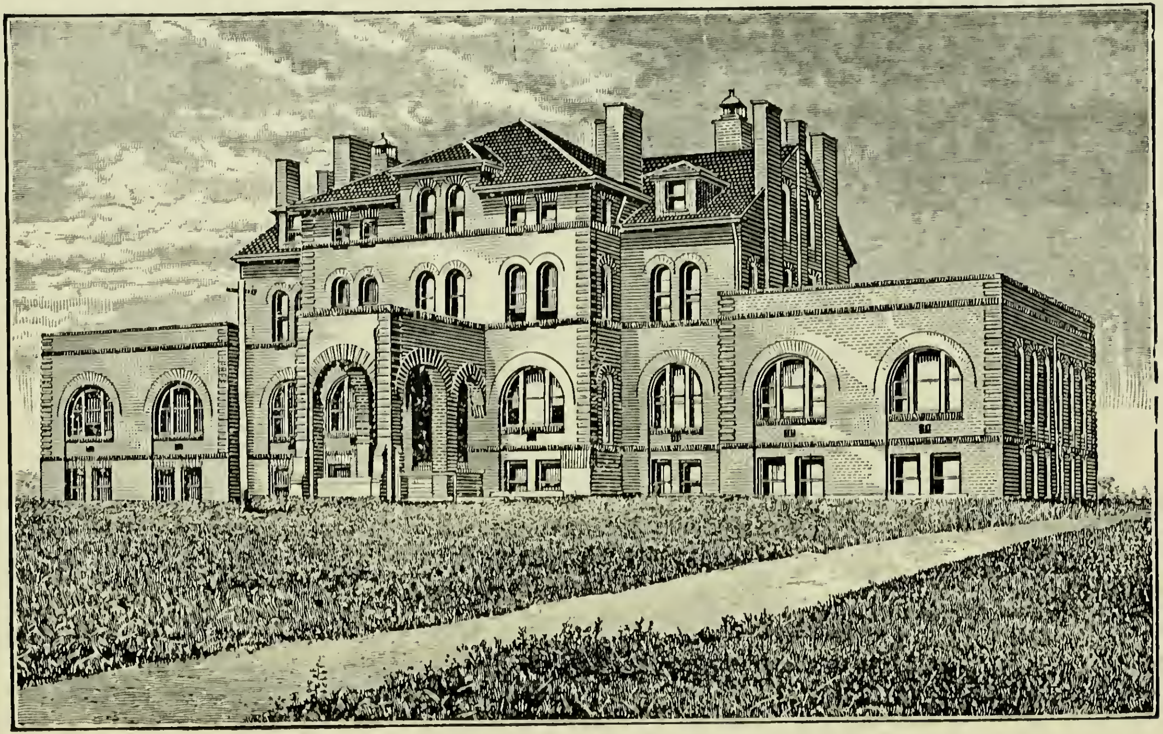
Tuesday, March 26, Spring Term begins.
Saturday, May 25, last day for submitting theses.
Friday, May 31, Senior examinations end.
Friday, June 7, examinations end.
Wednesday, June 12, Commencement Day.

August 3, First Saturday, } Examinations for admission at county seats by county examiners.
Tuesday, Sept. 3, Wednesday, Sept. 4, } Examination for admission and for conditioned students.
Thursday, September 5, Registration Day.
Friday, September 6, Fall Term begins.
Thursday, November 28, Thanksgiving Day.
Friday, December 20, Fall Term ends.

1896.

Thursday, January 2, Winter Term begins.
Saturday, February 15, announcement of subjects for theses.
Friday, March 20, Winter Term ends.

Tuesday, March 24, Spring Terms begins.
Saturday, May 23, last day for submitting theses.
Friday, May 29, Senior examinations end.
Friday, June 5, examinations end.
Wednesday, June 10, Commencement Day.



NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS. (MAIN BUILDING.)

SEVENTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH.

1895-1896.

FALL TERM BEGINS THURSDAY, SEPTEMBER 3d, 1896.

RALEIGH;
EDWARDS & BROUGHTON, PRINTERS.
1896.

TRUSTEES OF THE COLLEGE.

MEMBERS OF THE BOARD OF AGRICULTURE.

First Appointed.	*Name and Post Office.*	*Representative of*
1883	Col. W. F. Green, Franklinton, . . President of the Board.	Fourth District.
1883	Col. R. W. Wharton, Washington,	State-at-Large.
1887	W. S. Primrose, Raleigh, ...	State-at-Large.
1887	H. E. Fries, Salem, ...	Eighth District.
1889	N. B. Broughton, Raleigh, ...	State-at-Large.
1889	Dr. W. R. Capehart, Avoca, ...	Second District.
1891	J. B. Coffield, Everett's, ...	First District.
1893	J. H. Gilmer, Greensboro, ...	Fifth District.
1893	D. A. Tompkins, Charlotte, ...	Sixth District.
1893	Dr. J. R. McLelland, Mooresville,	Seventh District.
1895	Frank Wood, Edenton, ...	State at-Large.
1895	J. L. Nelson, Lenoir, ...	State-at-Large.
1895	H. E. King, Peanut, ...	Third District.
1895	E. A. Aiken, Jeptha, ...	Ninth District.
1895	Dr. Cyrus Thompson, Richlands, . President Farmers' State Alliance.	*Ex officio.*

EXECUTIVE COMMITTEE.

W. S. Primrose, *Chairman.*

H. E. Fries, Dr. J. R. McLelland,
D. A. Tompkins, Dr. Cyrus Thompson.

FINANCE COMMITTEE.

N. B. Broughton, *Chairman.*

H. E. King, Frank Wood.

FACULTY AND OFFICERS.

Alexander Q. Holladay, *President and Professor of History.*

Studied at Univ. of Va. and Univ. of Berlin; President of Stonewall Jackson Institute, Va., 1881–'84; President and Professor of English, Florida Agricultural College, 1884–'89.

W. F. Massey, C. E., *Professor of Horticulture, Arboriculture and Botany.*

C. E. 1859, Union College, N. Y.; studied also at Washington College, Md., and Dickinson College, Pa.; Examiner Public Schools, Kent county, Md., 1868–'75; Director Department of Agriculture, Miller Manual Training School, Va., 1885–'89.

W. A. Withers, A. M., *Professor of Pure and Agricultural Chemistry, and Secretary.*

A. B. 1883, and A. M. 1885, Davidson College; post-graduate student Cornell University, N. Y., 1888–'90 (Fellow 1889–'90); Assistant Chemist N. C. Agricultural Experiment Station, 1884–'88; Fellow American Association for Advancement of Science.

D. H. Hill, A. M., *Professor of English.*

B. Irby, M. S., *Professor of Agriculture.*

B. S. 1884, and M. S. 1887, Miss. Agricultural College; Professor of Agriculture. Miss. Agricultural College, 1887–'88; Manager Cycloneta Experiment Farm of Georgia Southern & Florida Railroad, 1888–'92.; Fellow American Association for Advancement of Science.

W. C. Riddick, A. B., C. E., *Professor of Civil Engineering and Mathematics.*

A. B. 1885, University of North Carolina; C. E. 1890. Lehigh University, Pa.: recently with Roanoke Navigation and Water Power Company.

Nathaniel R. Craighill, S. B., *Professor of Mechanical Engineering.*

S. B. 1893 in Mechanical Engineering, and 1894 in Electrical Engineering, Mass. Institute of Technology; recently with Victoria Cotton Mills, Newburyport, Mass., and Bell Telephone Co. of Philadelphia.

Nathan Hale Barnes, A. M., Ph. D., *Professor of Physics and Elect. Eng., and of Military Science and Tactics.*

A. M and Ph. D., Illinois College; Graduate U. S. Naval Academy and of U. S. Naval Torpedo School; Lieutenant-Colonel Florida State Military Institute; formerly Instructor in Military and Natural Sciences, Illinois College, and in Florida State Military Institute.

R. E. L. Yates, A. M., *Adjunct Professor of Mathematics.*

Frank E. Emery, M. S., *Assistant Professor of Agriculture.*

B. S. 1883, and M. S. 1893. Maine State College; recently Farm Superintendent of Houghton Farm, N. Y., and of N. Y. Agricultural Experiment Station; Agriculturist N. C. Agricultural Experiment Station.

CHARLES M. PRITCHETT, B. S., M. E., *Instructor in Drawing and Shop Work.*

B. S. 1891, Georgia School of Technology; M. E. 1895, N. C. College of Agriculture and Mechanic Arts.

CHARLES B. PARK, *Superintendent of Shops.*

Recently with Allen & Cram, founders, Raleigh, N. C., and machine shops of Seaboard Air Line Railroad.

B. S. SKINNER, *Assistant in Farm Practice, and Farm Superintendent.*

Recently of Perquimans county.

F. P. WILLIAMSON, D. V. S., *Instructor in Veterinary Science.*

D. V. S. 1893, American Veterinary College, N. Y.; studied also at Wake Forest College; consulting Veterinarian N. C. Agricultural Experiment Station.

J. A. BIZZELL, B. S., *Assistant in Chemistry.*

B. S. 1895, N. C. College of Agriculture and Mechanic Arts.

W. K. DAVIS, JR., B. E., *Assistant in Physics.*

B. E. 1895, N. C. College of Agriculture and Mechanic Arts.

DAVID CLARK, B. E., *Assistant in Drawing and Shops.*

B. E. 1895, N. C. College of Agriculture and Mechanic Arts.

G. S. FRAPS, *Assistant in Chemistry.*

Class of 1896, N. C. College of Agriculture and Mechanic Arts.

A. H. PRINCE, B. S., *Assistant in Dairying.*

B. S. 1895, N. C. College of Agriculture and Mechanic Arts.

A. A. WILSON, *Tutor of Sub.-Freshman Class.*

Class of 1897, N. C. College of Agriculture and Mechanic Arts.

MRS. SUE C. CARROLL, *Matron.*

Recently of Sampson county.

JAS. R. ROGERS, M. D., *Physician.*

A. B. 1882, Wake Forest College; M. D. 1886, College of Physicians and Surgeons Baltimore, Md.

STUDENTS (193.)

POST-GRADUATES (16).

Name.	*Post Office.*	*County.*	*Major Course.*
SAMUEL ERSON ASBURY B. S. '93, N. C. College of Agriculture and Mechanic Arts.	Gastonia	Gaston	Chemistry.
THOMAS MARTIN ASHE B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Raleigh	Wake	Mech. Eng.
JAMES ADRIAN BIZZELL B. S. '95, N. C. College of Agriculture and Mechanic Arts.	Dunn	Harnett	Chemistry.
JOHN ISHAM BLOUNT B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Faison	Sampson	Chemistry.
WALTER AUSTIN BULLOCK B. S. '95, N. C. College of Agriculture and Mechanic Arts.	Williamsboro,	Vance	Agriculture.
DAVID CLARK B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Raleigh	Wake	Mech Eng.
WM. KEARNEY DAVIS, JR. B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Louisburg	Franklin	Mech. Eng.
CHARLES DUFFY FRANCKS B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Richlands	Onslow	English.
WILLIAM HENRY HARRISS B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Warrenton	Warren	Mech. Eng.
CHARLES BOLLING HOLLADAY B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Raleigh	Wake	Civil Eng.
CHARLES PEARSON B. E. '94, N. C. College of Agriculture and Mechanic Arts.	Saluda	Polk	Civil Eng.
ABRAM HINMAN PRINCE B. S. '95, N. C. College of Agriculture and Mechanic Arts.	Henderson	Vance	Agriculture.
CHAS. MARCELLUS PRITCHETT B. S. '91, Georgia School of Technology. M. E. '95, N. C. College of Agriculture and Mechanic Arts.	Cartersville, Ga.		Civil Eng.
CHAS. BURGESS WILLIAMS B. S. '93, N. C. College of Agriculture and Mechanic Arts.	Indiantown	Camden	Chemistry.
CHAS. GARRETT YARBROUGH B. E. '95, N. C. College of Agriculture and Mechanic Arts.	Locust Hill	Caswell	Elec. Eng.
LOUIS THOMAS YARBROUGH B. E. '93, N. C. College of Agriculture and Mechanic Arts.	Semora	Caswell	Civil Eng.

CLASS OF 1896—SENIORS (10).

Name.	*Post Office.*	*County.*
DANIEL ALLEN	Raleigh	Wake.
GEORGE STRONACH FRAPS	Raleigh	Wake.
MARION JACKSON GREEN	Bostic	Rutherford.
JOHN HOWARD	Tarboro	Edgecombe.
WILLIAM COLBERT JACKSON	Winterville	Pitt.

Name.	*Post Office.*	*County.*
Robert Graham Mewborne	Kinston	Lenoir.
Mark Rodgers Vick	Margarettsville	Northampton.
Levi Romulus Whitted	Stainback	Alamance.
Henry Lloyd Williams	Willeyton	Gates.

IRREGULAR.

Thomas Jehu Smithwick	Sans Souci	Bertie.

CLASS OF 1897—JUNIORS (30).

Name.	*Post Office.*	*County.*
William Manly Baker	Tarboro	Edgecombe.
Joseph Samuel Buffaloe	Rand's Mills	Wake.
John William Carroll	West Raleigh	Wake.
Charles Edward Clark	Charlotte	Mecklenburg.
Wm. Alexander Graham Clark	Raleigh	Wake.
Nicholas Louis Gibbon	Derita	Mecklenburg.
James Harper	Patterson	Caldwell.
Cebern Dodd Harris	Raleigh	Wake.
Jere Eustis Highsmith	Parkersburg	Sampson.
Joseph Peace Jenkins	Franklinton	Granville.
Thaddeus Otis Joyner	Pendleton	Northampton.
Clyde Bennett Kendall	Polkton	Anson.
Sidney Gustavus Kennedy	Coahoma	Lenoir.
Joseph Lawrence Knight	Mildred	Edgecombe.
Walter Jones McLendon	Wadesboro	Anson.
Repton Hall Merritt	Wilmington	New Hanover.
Albert Hicks Oliver	Mount Olive	Wayne.
William Burt Philips	Battleboro	Nash.
Hugh Williams Primrose	Raleigh	Wake.
Willis Hunter Sanders	Dunn	Harnett.
James Alexander Sinclair	Marion	McDowell.
Lawrence Butner Thomas	Thomasville	Davidson.
Lea Watson	Raleigh	Wake.
William Fowle Welborn	Lexington	Davidson.
Bradley Jewett Wootten	Wilmington	New Hanover.
George Arlington Wright	Maxton	Robeson.

IRREGULARS.

Samuel Andrew Grier	Harrisburg	Cabarrus.
Clarence Haywood Joyner	Pendleton	Northampton.
George Frederick Syme	Raleigh	Wake.
Amme Anerol Wilson	Mount Holly	Gaston.

CLASS OF 1898—SOPHOMORES (38).

Names.	*Post Office.*	*County.*
Clement Bruce Adams	Monroe	Union.
Sydenham Brevard Alexander, Jr.	Charlotte	Mecklenburg.
Thomas Winslow Alexander	Charlotte	Mecklenburg.
Esley Offilt Anderson	Statesville	Iredell.
Dorsey Frost Asbury	Gastonia	Gaston.
Robert Marriott Battle	Rocky Mount	Edgecombe.
Sidney Hamilton Beck	Table Rock	Burke.
Clarence Brown	Kenansville	Duplin.
Hugh Clement	Mocksville	Davie.
Whitfield Cobb	Raleigh	Wake.
Anson Elikem Cohoon	Elizabeth City	Pasquotank.
Hugh McCollum Curran	Westboro	Massachusetts.
Fred. Charles Doyle	Raleigh	Wake.
Benjamin Carey Fennell	Raleigh	Wake.
Joseph Graham	Hillsboro	Orange.
John Madison Hodge	Raleigh	Wake.
Harvey Joseph Johnson	Raleigh	Wake.
Kimbrough Jones, Jr.	Raleigh	Wake.
Alpheus Rountree Kennedy	Coahoma	Lenoir.
Thornton Butler Mathews	Asheville	Buncombe.
Sidney Franklin Mauney	Gold Hill	Rowan.
John Howard Miller	Sing Sing	New York.
Fernando Zollie Morris	Hendersonville	Henderson.
Edwin Bentley Owen	Michael	Davidson.
Moore Parker	Raleigh	Wake.
John Ernest Ramsay	Salisbury	Rowan.
Vernon Badham Ramseur	Hendersonville	Henderson.
Robert Perceval Reade	Mount Tirzah	Person.
John Robert Robinson	Pittsburgh	Pennsylvania.
Henry Holland Springs	Lexington	Davidson.
Numa Reid Stansell	Allenton	Robeson.
Teisaku Sugishita	Kokufu	Japan.
Samuel Julius Turner	Goodman	Anson.
Dalma Ozark Uzzle	Wilson's Mills	Johnston.

IRREGULARS.

Robert Guy Hodges	Kinston	Lenoir.
Baxter Johnson Hunter	Derita	Mecklenburg.
Charles William Lewis	Grantsboro	Pamlico.
Hollis Taylor Winston	Chapel Hill	Orange.

CLASS OF 1899—FRESHMEN (74).

Names.	*Post Office.*	*County.*
James Oscar Abernathy	Mount Holly	Gaston.
Charles Lee Allen	Rogers' Store	Wake.
Charles Skinner Allen, Jr.	Raleigh	Wake.
John Henderson Birdsong	Raleigh	Wake.
Samuel Perry Boddie	Laurel	Franklin.
Manly Wingate Boushall	Belcross	Camden.
Oscar Lawrence Brinkley	Raleigh	Wake.
Junius Long Capehart	Kittrells	Vance.
Max Henry Carter	Asheville	Buncombe.
Ulysses Cephas Combs	Douglas	Rockingham.
Robert Allen Darden	Willow Greene	Greene.
Alphonso Morton Dunlap	Cedar Hill	Anson.
Edward Winslow Emery	Westboro	Massachusetts.
Simon Justus Everett	Palmyra	Martin.
John Fennell	Raleigh	Wake.
Francis Marion Foy	Scott's Hill	Pender.
James Clarence Freeman	Burlington	Alamance.
Daniel E. Gatewood	Wadesboro	Anson.
Jesse Weston Gill	Raleigh	Wake.
William Bradley Hanff	Newbern	Craven.
Ira May Hardy	Goldsboro	Wayne.
Loften Boykin Hargrove	Williams' Mills	Chatham.
Charles Jay Harris	Mebane	Alamance.
Allan Sherwood Higgs	Raleigh	Wake.
James Atlas Hood	Granthams	Wayne.
Peter Claywell Jurney	Olin	Iredell.
Gerald O'Keefe Kendrick	Raleigh	Wake.
Frank Banks Kuykendal	Davenport	Mecklenburg.
Floy Lambe	Durham	Durham.
Walter Dunn LaRoque, Jr	Kinston	Lenoir.
Fred. Henry Lemly	Salem	Forsyth.
George Luther Lyerly, Jr.	Salisbury	Rowan.
Albert Sidney Lyon	Wilton	Granville.
Edward Herbert Maddrey	Seaboard	Northampton.
Carroll Lamb Mann	Engelhard	Hyde.
William Henry Mason	Edenton	Chowan.
John Chandler Mints	Shallotte	Brunswick.
James McNair Moore	Greenville	Pitt.
George Washington Mordecai	Raleigh	Wake.
Nicholas Newbern	Powell's Point	Currituck.
Eugene LeRoy Parker	Raleigh	Wake.

Names.	*Post Office.*	*County.*
Jacob Rankin Parks, Jr	Cape	Randolph.
David Emsley Patterson	Durham	Orange.
Robert James Pearson	Pittsburgh	Pennsylvania.
Eugene Gray Person	Louisburg	Franklin.
William Montgomery Person	Kittrells	Vance.
Archie Willie Railey	Lotta	Hertford.
James Morrison Reinhardt	Reinhardt	Lincoln.
Samuel Eli Richardson	Waxhaw	Union.
David Gillespie Robeson	West Brook	Bladen.
Edward Coker Rogers	Society Hill	South Carolina.
Charles Shober Siewers	Salem	Forsyth.
Thomas Skinner Simpson	Raleigh	Wake.
Paul Moore Spruill	Columbia	Tyrrell.
John Lewellen Steelman	Oakwoods	Wilkes.
William Ashley Stevenson	Raleigh	Wake.
James Rogers Stokes	Hertford	Perquimans.
William Caswell Sugg	Old Sparta	Edgecombe.
Herman Sutton	Kinston	Lenoir.
John Leavy Swindell	Raleigh	Wake.
Ralph Bingham Sykes	Rock Spring	Orange.
Thomas Fuller Terrell	Raleigh	Wake.
Irving Burchard Tucker	Fair Bluff	Columbus.
Joseph McKeehan Tull	Morganton	Burke.
George Clifford Uzzle	Wilson's Mills	Johnston.
Darius Samuel Waitt	Raleigh	Wake.
Hugh Ware	King's Mountain	Cleveland.
Charles Whitaker	Littleton	Warren.
Joseph D. Woodley	Creswell	Washington.
Edgar Calvin Yarbrough	Semora	Caswell.
Hubert Burnette Young	Raleigh	Wake.

IRREGULARS.

Charles Everett Conwell	Aulander	Bertie.
Daniel Mark O'Brien	West Troy	New York.
William Nathan Harold Smith	Raleigh	Wake.

SUB-FRESHMAN CLASS (25).

Name.	*Post Office.*	*County.*
Charles Marvin Cullens	Harrellsville	Hertford.
William Henry Dameron	Inez	Warren.
Lee Goode	Connelly Springs	Burke.
George Hendrix	Randleman	Randolph.
Ross Ihrie Hill	Pittsboro	Chatham.

Name.	*Post Office.*	*County.*
Albert Boyd Homesley	Charlotte	Mecklenburg.
John Wilson Jennings	Weeksville	Pasquotank.
Hugh Kendrick	Raleigh	Wake.
Joseph Watson Kilpatrick	Closs	Lenoir.
Clyde McGee Kirkland	Raleigh	Wake.
Walter Moore Lewis	Morehead City	Carteret.
Robert Lee Lumsden	Raleigh	Wake.
Fred. Earl Mitchell	Raleigh	Wake.
George Alexander Moore	Jackson	Northampton.
William Latney Osborne	Charlotte	Mecklenburg.
George William Baxter Parish	Concord	Cabarrus.
John Larmour Parrott	Kinston	Lenoir.
William McGee Rhyne	Lodo	Mecklenburg.
William Hart Stone, Jr.	Shallotte	Brunswick.
Robert Leach Taylor	Leachburg	Johnston.
Wade Hampton West	Closs	Lenoir.
David Evans Wharton	Washington	Beaufort.
Lewis Williams	Panther Creek	Yadkin.
Henry Elias Wyatt	Raleigh	Wake.
Adolphus Hill Yearby	Durham	Durham.

COMMENCEMENT 1895.

ANNUAL ORATION

... BY ...

CAPT. CHARLES E. VAWTER, SUPERINTENDENT MILLER MANUAL TRAINING SCHOOL, VA.

GRADUATING CLASS.

Name and Degree.	*Post Office.*	*County.*
THOMAS MARTIN ASHE, B. E	Raleigh	Wake.
*JAMES ADRIAN BIZZELL, B. S	Dunn	Harnett.
JOHN ISHAM BLOUNT, B. E	Faison	Sampson.
JAMES WASHINGTON BRAWLEY, B.S.,	Granite Hill	Iredell.
†WALTER AUSTIN BULLOCK, B. S	Williamsboro	Vance.
DAVID CLARK, B. E	Raleigh	Wake.
GEO. WASHINGTON CORBETT, JR., B.E.,	Keith	Pender.
EDWIN SPEIGHT DARDEN, B. S	Speight's Bridge	Greene.
WM. KEARNEY DAVIS, JR., B. E	Louisburg	Franklin.
JOSEPH CHARLES DEY, B. S	Currituck	Currituck.
LEE BORDEN ENNETT, B. S	Cedar Point	Carteret.
ISAAC HENRY FAUST, B. E	Planters	Randolph.
CHARLES WYLLIS GOLD. B. S	Wilson	Wilson.
WILLIAM HENRY HARRISS, B. E	Warrenton	Warren.
CHRISTOPHER MILLER HUGHES, B.E.,	Raleigh	Wake.
MALCOLM BEALL HUNTER, B. E	Charlotte	Mecklenburg.
†SAM'L CHRISTOPHER MCKEOWN, B. E	Cornwell	South Carolina.
MANN CABE PATTERSON, B. E	Durham	Orange.
ABRAM HINMAN PRINCE, B. S	Henderson	Vance.
VICTOR VASHTI PRIVOTT, B. E	Rocky Hock	Chowan.
*HOWARD WISWALL, JR., B. E	Winsteadville	Beaufort.
CHAS. GARRETT YARBOROUGH, B. E	Locust Hill	Caswell.
CHAS. MARCELLUS PRITCHETT, M. E	Cartersville	Georgia.

B. S. 1891, Georgia School of Technology.
Major Course, Mechanical Engineering.

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* With first distinction in course.

† With second distinction in course.

HONOR ROLL, 1894-'95.

SENIOR CLASS.

Names.	*Post Office.*	*County.*
James Adrian Bizzell	Dunn	Harnett.
Walter Austin Bullock	Williamsboro	Vance.
Howard Wiswall, Jr	Winsteadville	Beaufort.
Lee Borden Ennett	Cedar Point	Carteret.
Abram Hinman Prince	Henderson	Vance.

JUNIOR CLASS.

George Stronach Fraps	Raleigh	Wake.
Robert Graham Mewborne	Kinston	Lenoir.

FRESHMAN CLASS.

Numa Reid Stansell	Allenton	Robeson.
Joseph Frederick Hunter	Brinkleyville	Halifax.

FRESHMAN PRIZES IN AGRICULTURE.

MEDAL.

Names.	*Post Office.*	*County.*
Paul Blair Parks	Pioneer Mills	Cabarrus

TEN-DOLLAR PRIZE.

Sidney Hamilton Beck	Table Rock	Burke.

FIVE-DOLLAR PRIZE.

Alpheus Rountree Kennedy	Coahoma	Lenoir.

ORGANIZATION AND AIMS OF THE COLLEGE.

This College was founded under Act of the General Assembly of March, 1887, and was first opened for students October 2, 1889. Since that time its growth, both in number of its faculty and in number of its students, has been steady, and its work has been thorough and devoted entirely to technical education.

The establishment of a technical college in this State was due to the growth of the conviction that educated men are necessary—not only for the furtherance of the purely intellectual phases of a State's life, but that they are equally necessary for the development of the material resources of a State. It was felt that any State as rich in agriculture and mechanical resources as North Carolina is could not longer afford to fail to train men competent to get the best return from varied soils, or to direct the mechanical industries necessary to use up soil or mineral products. It was believed that the increasing sharpness of competition demanded a more intelligent body of truckers and farmers and better methods of farming.

It was also believed that it was poor economy in a State to have to send from without its borders for skilled artisans, for architects, for builders, for superintendents of machinery, for agricultural, analytical and industrial chemists, for civil, for mechanical, for electrical engineers, when it could educate its own sons for these useful and remunerative employments.

The mission of the College then is, so far as it may be able, to supply to the State these men—men so prepared that they may become leaders in the industrial and scientific life of the Commonwealth. The agricultural department will graduate men who have made a careful study of agricultural and horticultural methods, of soils, of plant food and growth, of fertilizers, of dairying and stock-raising, of drainage, of vineyard and orchard culture—in short, the department will try to send out, not agricultural theorists nor so-called "book-farmers," but young men who have, by practice in best methods and with best machinery and by study under experienced teachers, attempted to prepare themselves for intelligent and successful farming.

The mechanical, electrical and engineering departments will endeavor to give students a general knowledge of mechanism, of building, of bridge-building, of designing, of dynamos and dynamo running—in fact, of all the work expected of the civil and mechanical graduates of first-class technical institutions.

The College, however, does not intend to make mere machines of its matriculates, but its aim is to make educated men at the same time that it makes educated specialists. To this end general courses of study, similar to those taken in other Colleges, complement the technical work. These include mathematics, book-keeping, history, physics, chemistry, botany, logic, English language and literature, and all students are required to take these studies.

INCOME.

While the State makes the College an annual appropriation, its main support is derived from the Treasury of the United States in the shape of funds arising from the sale of public lands, thus inflicting no burden of taxation on any citizen. These Acts were passed July 2, 1862, and August 30, 1890, and require the funds granted by them to each State to be applied to the "endowment, support and maintenance of at least one College, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

COURSES OF INSTRUCTION.

The three general courses of study offered in this institution are in Agriculture, in Engineering and Mechanics, and in Applied Science.

In the Freshman year, the work of all students in these courses is the same, and consists of Mathematics, English History, Physics, Chemistry, Physiology, Botany and Agriculture in the class-room, and practice work in the field, green-house, carpenter shop, drawing-room, and physical laboratory. At the beginning of the Sophomore year the courses begin to specialize, and the student selects the one best fitted to his needs. With each of the higher classes, more time is given to the technical studies of the course.

THE COURSE IN AGRICULTURE.

The technical work of this course includes work in the departments of Agriculture, Horticulture and Chemistry.

Students can make their graduating thesis in any one of the three departments.

Inasmuch as this is not a manual labor training school, we do not propose to educate a young man to be *simply* a farm laborer, but try to give him, in addition to his practical work, a higher training that will fit him for a life of more extended usefulness.

Of course they are imbued with the idea that the man, after all, dignifies the labor, and that the honor of doing anything consists in doing it well.

The manual labor required is termed *practice work*, and is given in connection with the class-room work. In the lecture-room they learn the *why*, and in the field they learn the *how*.

It is the endeavor at all times to teach the students to use their brains as well as their hands, and that unless the muscle is directed by an educated brain, it cannot accomplish the greatest good possible.

THE COURSE IN ENGINEERING AND MECHANICS.

The aim of this course is to equip the student with such training in pure and applied mathematics as is necessary to enable him to deal with engineering problems from the most favorable standpoint, and also to make of him a good draughtsman and mechanic. It attempts by instruction, both theoretical and practical, to familiarize him with the best engineering and shop practice. The more strictly professional work begins with the second year, and is continued throughout the course.

The technical work is included in the departments of Mechanical and Civil Engineering, and Physics, in any of which the student may take his thesis for graduation.

An examination of the schedule of topics, at the end of the Catalogue, will give a clear idea of the subjects taught and the methods employed.

THE COURSE IN APPLIED SCIENCE.

The work of this course, outside the general studies which are required, is largely elective. The subjects are included under the departments of Entomology, Zoology, Botany, Agricultural and Analytical Chemistry, Physics, Electrical Engineering, Applied Mathematics, etc., and the course is intended for those wishing to become specialists in any of these departments. The thesis is to be made in the department in which the student elects most of his studies. The full time given to practice work in the other courses is required in this.

POST-GRADUATE COURSES.

Post-graduate courses have been established, leading to the degrees of Master of Science (M. S.), Mechanical Engineer (M. E.), and Civil Engineer (C. E.)

Candidates for the Master's degree may take their major subject in the departments of Agriculture, Horticulture, Chemistry or Physics. Minor courses are offered in Agricultural Analysis, Organic Synthesis, Theoretical Chemistry, Vertebrate Zoology, Veterinary Science, Cryptoganic Botany, Invertebrate Zoology, and Electrical Engineering, two of which must be taken.

For the degrees of M. E. and C. E., the courses are prescribed, and further information will be found under these departments and at the end of the Catalogue.

A thesis embodying the results of some original investigation, must be submitted and accepted before the final examinations are taken.

The studies will be carefully adapted to the expansion and development of the special lines of work selected by graduate students for a professional calling.

IRREGULAR WORK.

Students, otherwise qualified, may be allowed to elect certain studies from the regular courses already provided in the College, if no inconvenience result to the members of the regular classes.

SUB-FRESHMAN CLASS.

A Sub-Freshman Class has been organized, to give special preparation to such young men as are unable to enter the Freshman Class, and who nevertheless desire a technical education. No county will be allowed to have more representatives in this class than it has in the House of Representatives of the General Assembly.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. IRBY.
ASST. PROF. EMERY. MR. SKINNER.
DR. WILLIAMSON.

In this department we try to qualify the student so that, when he returns home, he will be capable of managing his own farm, or acting as superintendent, dairyman or stockman for someone else, in addition to being able to perform in person the various kinds of work on a farm. We teach that it is of prime importance to know the reason for every thing that is done, and that every *effect* has a *cause.*

COURSE OF STUDY.

FRESHMAN YEAR.

Fall Term—Three months in Gulley's "First Lessons in Agriculture."

Winter Term—Three months in "Lincoln's Physiology."

These subjects are amplified by charts, practical illustrations and lectures.

SOPHOMORE YEAR.

Fall Term—Lectures on Hygiene of the Farm, Drainage, Description and Use of Farm Implements, Cultivation and Harvesting of Farm Crops.

Winter Term—Advanced course in Brand's "Physiology and Anatomy."

Spring Term—Curtis' "Breeds of Live Stock," including horses, cattle, sheep and hogs.

Practice work the entire year.

JUNIOR YEAR.

Fall Term—Dairying, which includes lectures on Selection of Dairy Herds, Development of Cows, Calculation of Feed Rations, Milking, Ripening of Cream, Use of Separator, Churning, etc., Keeping Records and Test of Cattle, Calculation of Milk Values from Tests, Location of Permanent Pastures, and Crops Best Suited to our State for Dairy Herds.

Winter Term—Nicholson's "Zoology and Veterinary Science."

Spring Term—Lectures in Dairying, continued

Practice work through the year is confined to care and handling of stock, and practical dairy work.

SENIOR YEAR.

Fall Term — Davis' "Meteorology," completed; and French's "Tile Drainage," commenced.

Winter Term—"Tile Drainage," completed; and stock breeding, introduced.

Spring Term—Lectures on farm topics that are specially important are given, such as Farm Economy, Plan of Work, Growing Supplies at Home, Organizing a Farm, Arrangement of Buildings, Location of Fields, Care of Stock, Science as Applied in Feeding, Nutritive and Manurial Values of Feed Stuffs, Care and Use of Manures, Improvement of Exhausted Soils by Rotation of Crops and by Growing Renovating Crops.

The class has general practice work the entire year; this, with a graduating thesis for commencement, completes the regular four year's course.

Owing to the fact that many young men in the State have not the time or money to enable them to take the full course, and yet desire instruction, we encourage them to to come and take a short course in Agriculture during the months of January and February. In this course they would not take any other College studies, unless desired.

A Post-Graduate course has been provided, and students taking the same are given special instruction in studies pertaining to Agriculture, in addition to practical work.

The *practice* work given during the four year's course is not paid for, as it is considered a part of the instruction; but work done voluntarily by the students is paid for, at the rate of seven cents per hour. They are encouraged to work whenever it can be given; and, as the work is done under the supervision of the Professor of Agriculture and the Superintendent of the Farm, it is instructive as well as remunerative. Thus many of them are enabled to pay a part of their expenses with their labor. Those who work well generally stand well in their classes.

The Experiment Station is near by, and as it is always open for inspection, is another source of practical information for the thoughtful student.

The equipment of the farm is as follows: Large basement barn, 50 x 72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain-bins, etc.; third story, by hay, which is elevated by a Ricker & Montgomery hay carrier. Just outside the barn are two seventy-ton circular silos. These are connected with a No. 18 Ohio Standard Feed and Ensilage Cutter. The power for cutting is supplied by an eight-horse power Skinner engine. The dairy building is large and commodious, having three rooms and a cellar, besides a large room above used, as an Agricultural Society hall, in which the Society meets every Saturday night. The dairy is supplied with a De Laval Separator, Babcock Tester, rectangular churn, butter maker, good, cheap heating apparatus, etc. The cellar is cemented, and has a cemented aqueduct on one side, through which flows water from a spring situated above the dairy. This is for ripening cream, and water supply.

The live stock consists of two Percheron mares and colts, two mules, pure-bred Jerseys, Holsteins, Devons, Brown Swiss, Shorthorns, and high-grades. Poland-China hogs are raised to utilize the waste from mess-hall and dairy.

Field crops are corn, cotton, ensilage, peas, potatoes, hay, clover, oats, crimson clover, rye, soja beans, grasses, etc.

Instead of visionary theorists, we hope to turn out practical farmers, who will adopt the more improved methods of farming, thus aiding in advancing the cause in their several communities.

DEPARTMENT OF HORTICULTURE, ABORICULTURE AND BOTANY.

PROFESSOR MASSEY.

A thorough knowledge of the anatomy of plants and their physiological functions being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in these branches. Botany will be mainly studied as a branch of Biology, but Systematic Botany will also receive due attention. It will not be taught by the mere memorizing of dry definitions, but by a practical study of the characteristics of plants upon which classification is founded.

Those who complete the whole course will receive instruction in all the branches needed by a professional Horticulturist, including greenhouse propagation, forcing of plants, flowers and vegetables under glass, landscape gardening, farm surveying, road working, the construction of horticultural buildings, and forest improvement.

COURSE OF STUDY.

FRESHMAN YEAR.

Spring Term—Elementary study of plant structure with text-book and explanatory lectures on plant life, and study of natural forms.

SOPHOMORE YEAR.

Practical study in Pomology, with field lectures and practice in budding, pruning, grafting and propagating in open ground; Invertebrate Zoology and Entomology; Systematic Botany in Spring Term.

JUNIOR YEAR.

Vegetable Histology with compound microscope, lectures on Physiological Botany, Forestry and Palæontology; laboratory study of Cryptogams in Spring Term.

SENIOR YEAR.

Lectures on Landscape Art, Road-making, Horticultural Construction, and Commercial Culture of Vegetables and Flowers in Open Ground and Under Glass; practice in greenhouse management and cross-fertilization. Thesis.

In the Junior year each student will be furnished with a compound microscope, and must make a deposit at the beginning of each year, of three dollars, for materials and reagents used, any unexpended balance of which will be refunded at the end of the year. Instruments furnished by the College, but loss and breakage must be made good by student.

In the Freshman and Sophomore years, a deposit of fifty cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession, will be given special opportunities in the Senior year to become experts in greenhouse work and propagation. The College and Station Greenhouses and Exotic Grapery give particular advantages for this.

POST-GRADUATE COURSE.

The major study for the Master's degree will be Practical Horticulture in all its branches, with a course of reading, under direction of Professor; Minors, Invertebrate Biology and Cryptogamic Botany.

COURSE IN SCIENCE.

Students in the Scientific course will follow the exact line of work as those in the Agricultural course to the end of the Junior year. The Senior year in this course will be devoted to general Biology and Bacteriology. The laboratory deposit for this year will be $5.

DEPARTMENT OF CHEMISTRY.

PROFESSOR WITHERS.
MR. BIZZELL. MR. FRAPS.

The Chemical Laboratories are supplied with fume closets, evaporating baths, drying chambers, blast lamps and extra tile-covered tables. The tables are of yellow-heart pine, with oak tops. Each student is provided with one large and two small drawers, and one cupboard, for keeping apparatus. Each working space is provided with gas, distilled water, reagents, and a sink. The Laboratory of Quantitative Analysis will accommodate thirty-two students, sixteen of whom may work simultaneously; and the Laboratory of General Chemistry will accommodate fifty-six students, twenty-eight of whom may work simultaneously.

The Chemical Library contains a carefully-selected list of standard reference books and chemical journals, which the more advanced students are expected to use very freely.

While the ultimate aim of the work is towards the application of the science to Agriculture and Technology, and the preparation of the student for a career as a Chemist, yet the fact is fully appreciated that this is most successfully realized when the work is based on a broad knowledge of the pure science.

The work of the Freshman and Sophomore years is required of all students. The work for subsequent years depends on the course in which the student is enrolled.

The Freshman class has for its work a brief introduction to General Chemistry, and its relation to the air, soil, plant and animal, following the order of Roscoe's Primer and Lupton's Scientific Agriculture.

The Sophomore class has Inorganic Chemistry (Storer & Lindsay). The common elements and their principal compounds are studied, with some of the fundamental principles of the science. Due attention is given to Stoichiometry. The class-room work consists of lectures, accompanied by full experiments, and the exhibition of specimens, to which reference is made. Daily recitations are held on the matter of the previous lecture. In the Laboratory, the student repeats for himself, under the eye of the instructor, the experiments performed in the lecture-room, and records the results and his explanation of the changes that have taken place. Cooley's Guide is followed. The latter part of the year is devoted to Qualitative Analysis (Caldwell).

The lectures in Agricultural Chemistry follow Mayer. Attention is given to a consideration of the atmosphere as a plant-feeder; the mineral and organic constituents of the plant, and their functions; the soil, and its relation to the plant; means of improving the soil; the preparation of manures and composts; green manuring; the composition of fodder, and the different means of curing and preserving; animal chemistry; stock feeding; chemistry of butter, of milk, etc.

Analytical Chemistry is continued by completing Qualitative Analysis, and an introductory course in Quantitative Analysis (Caldwell). At this time the student can adapt his laboratory work to his wishes, devoting his time to the agricultural, industrial or general branch of the subject. Attention is given to a discussion of Quantitative methods.

In the Laboratory courses, the student is required to be able not only to make correct separations, but to know the reasons for the changes, reactions involved, etc., and to test this knowledge, frequent recitations are held.

Industrial Chemistry is taught, attention being given to the more common industries, as sulphuric acid making, bleaching, dyeing, fertilizer making, paints, oils, etc. Visits with the class are made to plants in the vicinity. The metallurgy of iron and other useful metals is considered.

The Organic Chemistry follows Remsen's Text book and Orndorff's Manual for Laboratory work. The Theoretical Chemistry follows Meyer, and the Historical Chemistry Von Meyer.

For Post-Graduate and other advanced students, courses of reading are assigned, and the student required to submit papers on the same. The Laboratory work is continued, forming a large part of the course, and concludes with some original investigation, which is to be the basis of a thesis for graduation.

The Berzelius Society meets fortnightly for the discussion of the chemical journals and other chemical work.

DEPARTMENT OF PHYSICS AND ELECTRICAL ENGINEERING.

Professor BARNES.

The value of thorough instruction in Elementary Physics to a practical man, in the different walks of life, cannot be overestimated; and a knowledge of the varied application of the subtle force of electricity is becoming a necessity, as it is more and more in every way coming into daily use. The importance of this department is fully recognized, and it is the intention of this College to make instruction and practical work in it as beneficial as possible to the student. To this end a commodious and well-lighted Laboratory has been equipped with apparatus to illustrate the principles of physical science, and for instruction and practice in physical and electrical experiments, measurements and testing. We have the most approved forms of electric batteries, a magneto electric machine, a dynamo which provides electric illumination of the College buildings, galvanometers and testing apparatus of considerable variety and the best types. With these the students are familiarized, by both instruction and practical adjustment and manipulation. Upon finishing their course, students should be as well able to measure the efficiency and output of an electric plant, as to weigh groceries or measure a wood-pile, and they have had sufficient instruction and experience to install, maintain and operate such a plant.

The College is illuminated with incandescent electric lights, run by a four-pole, direct-current dynamo. During the past year a new building has been installed with seventy lamps. From the beginning, the whole work of installation, operation, maintenance and repair of the light plant has been done by students, as a part of their regular instruction.

In different courses, the work of this department extends through all the Collegiate and Post-Graduate classes, and is apportioned as follows:

In the Freshman class, all students are instructed in Elementary Physics. Recitations are illustrated by experiments, and followed by practical work in the Laboratory. The class is thus led to the acquirement of knowledge by study, by observation, and by doing the things taught. The text-books with this class are Gage's "Elements of Physics," and Gage's "Laboratory Manual." In all classes, the text-books are supplemented with lectures.

The Sophomore class of the Scientific Course takes a more advanced course in Physics, paying more particular attention to electricity, in which these students have no later instruction. The text-book, Avery's "Physics," is supplemented with experiments by the instructor in the class-room, and by the pupils.

The Junior Class of the Mechanical Course is instructed in electricity and magnetism during the entire year, with recitations, experiments, and practical work. The text-books used are Thompson's "Elementary Lessons in Electricity and Magnetism," and Day's "Electric Light Arithmetic." Included in the practical work is the installation and operation of the electric-light plant.

The Senior class of the Mechanical Course is instructed in Electrical Engineering, including electrical testing in the Laboratory, electro metallurgy, electric installation, and the designing and construction of electric generators and motors. The text-books used are Thompson's "Dynamo Electric Machinery," and Kempe's "Electrical Testing," with lectures and practical work. The students of this class have charge of the dynamo, and each in turn, assisted by a Junior, operates the electric-light plant.

The Mechanical Post-Graduates, with Kempe's "Electrical Testing" and Stewart and Gee's "Physics" as reference books, continue the course in Electrical Engineering, including the calibrating of instruments, electrical testing, and the construction and repair of physical apparatus.

The department has a reference library of valuable books, to which the best publications will be added as they appear.

DEPARTMENT OF MECHANICAL ENGINEERING.

PROFESSOR CRAIGHILL.
MR. PRITCHETT. MR. PARK.
MR. CLARK.

The object of this department is to give such theoretical and practical instruction as will prepare the student for the work of either an engineer or mechanic. The time is about equally divided between recitation room work and manual training, the latter consisting of drawing and shop work.

A commodious building is used for instruction, on the first floor of which are a recitation room, engineering laboratory, machine shop, forge shop, wood-turning shop, and carpenter shop, all fully equipped. On the second floor are two drawing rooms, a blue-print room, recitation room and a library, in which various scientific and technical journals are kept on file.

COURSES OF INSTRUCTION.

Shopwork.—The instruction in this department is given with a two-fold object in view: First, to make the student a first-class mechanic; and second, to make him familiar with the nature of woods and metals and with the typical operations that have to be performed upon them to make them of commercial value. All work is made from blue-prints, so that the student may learn how to read and interpret drawings made by others. The work shops are provided with the more important hand and machine tools, and the student has an opportunity to become familiar with them and to learn what can be accomplished by their use. In the last half of the fourth year, the students make some machine that will add to the equipment of the department.

The shops are equipped as follows: The carpenter shop contains thirty carpenter's benches and all the necessary tools for each bench. The wood-turning shop contains ten 12-inch swing lathes, a saw and dado machine, a 20-inch planer, a mortising and boring machine, a 30-inch band saw, a 6-inch sticker, a mitering machine, a grindstone, a steam glue pot, and six benches equipped with iron vises and all the tools necessary for pattern-making. Each lathe is fully equipped with turning tools. The forge shop contains twenty-three forges, each of which is provided with an anvil and forging tools, besides which there is a full equipment of tools for general use in the shop. The machine shop contains two engine lathes, a universal milling machine with spiral and gear-cutting attachments, a planer, an upright drill, an emery wheel, and six vise benches arranged for instruction in vise work, and a fully equipped tool room. The power for the shops is furnished by a 25 horsepower Woodbury engine. When the shops are running, one of the students has charge of the engine and another of the boilers.

Drawing.—The object of the course in drawing is to enable the student to express his ideas clearly on paper. With this in view, he is first taught to use drawing instruments;

next, to make working drawings of objects that exist, and then to put his own designs on paper in such a way that they will be intelligible to others. This course goes hand in hand with the theoretical and practical part of the instruction in engineering. In the lecture room, the student is taught to shape his ideas into practicable forms; in the drawing room, to put them on paper, and in the shops, to make them into material forms.

The first term of the first year is devoted to freehand sketching, and the remainder to practice in the use of drawing instruments. The instruction in the second year consists of a course of orthographic projections, and making working drawings of a casting or of some simple form of machine. In the third year, the work consists of the solution of various problems of mechanism, such as gearing, valves for the steam engine, and the like, and making a complete set of working drawings of some machine. In the fourth year, the drawing is entirely design. During the first term, the time is devoted to cam work, belting, and mechanical problems; the rest of the year, to the design of an engine, a boiler, a fly-wheel, a shaft coupling, or, some other problem that will illustrate the main principles of design. Each student is taught the blue-print process.

Steam.—This course includes a study of the properties of steam, the steam-engine, pumps, valve gears, indicator cards, boilers and chimneys, with a view to giving thorough instruction in the best modern practice in steam engineering.

Engineering Laboratory.—The objects to be accomplished in the Laboratory are as follows: First, to give the student practice in such experimental work as an engineer in the pursuit of his profession may be called upon to perform—such as valve-setting, engine and boiler testing, or measuring the flow of water; and second, to afford some practice in original research on engineering subjects.

The equipment of the Laboratory consists of a two-horse power engine, a ten-horse power engine (both of which were built by the students), a hot-air pumping engine, a small water-motor, a Worthington water-meter, friction brakes, weirs, and an indicator, planimeter, thermometers, tanks, and scales for making tests.

In addition to the Laboratory, there is a boiler-house equipped with three thirty-horse power boilers, several pumps, a Worthington receiver, and a jet condenser, all of which are available for experimental purposes.

Mechanism.—The student is taught the principles of the ordinary mechanisms met with in practice. He learns the methods of transmitting motion from one point to another, how to find the value of trains of wheels, and to arrange pulleys and design cam work.

Mechanism of Cotton Machinery.—The principles and object of the various machines used in the manufacture of cotton are explained, and suggestions made as to the best methods of running them to obtain the best results.

Mechanics.—During the first term of the third year, the general principles of Mechanics are studied. Throughout the fourth year, the principles already learned are applied to the calculation of the strength of materials, and the strength and stability of structures. Also, a study is made of such reliable tests as have been made to determine the strength of the materials most commonly used in practice, with a view to becoming familiar with the proper constants to be used in engineering work.

Mill Engineering.—A study is made of the best modern mill practice, the cotton mill being taken as an example. The student learns to proportion and arrange the machines and buildings so that there shall be a minimum loss from stoppage, and the mill shall be well balanced. He learns to arrange and lay out the shafting, and to find the power necessary to drive the machinery. Visits are made to the mills and manufacturing establishments in the neighborhood to see machinery in operation.

Heating and Ventilation.—The object of this course is to teach the student to warm and ventilate buildings in the most approved manner. The principles of the different systems in use are fully explained. The student makes calculations and drawings for heating and ventilating some building, which is taken for an example. A study is made of the extensive system in operation at the College.

POST-GRADUATE WORK IN MECHANICAL ENGINEERING.

Facilities are offered for one or two years of post-graduate work in this department, leading to the degree of Mechanical Engineer.

DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR RIDDICK.

Instruction is given in the following subjects:

SOPHOMORE CLASS.

Architecture and Building.—This includes lectures on buildings and building materials, as well as Architectural Drawing. The student is taught to draw plans, write specifications, and make out bills of materials, and also the methods of constructing houses and the uses of the various materials of construction. He studies the subject from the standpoints of both architect and contractor.

JUNIOR CLASS.

Graphic Statics.—This consists of the graphical determination of "bending moment," "vertical shears," and the stresses in frame structures and machine parts.

Surveying.—The student is taught land and topographical surveying and the rudiments of railroad and municipal engineering, including lectures on road-making. The Winter Term is devoted to the study of the theory of surveying and engineering, and the Spring Term to field work, each student being required to work up and plot his field notes. The College owns a transit, Y-level, compass, tapes, chains, rods, etc.

Text-book: Wentworth's Surveying.

SENIOR CLASS.

Roofs and Bridges.—This consists in the application of analytical methods to the determination of stresses in roof and bridge trusses and other frame structures. It includes, also, the design and construction of arches, domes, retaining walls, and masonry dams.

Text-book: Lanza's Applied Mechanics.

Hydraulics.—The students are taught the methods of measuring the flow of streams; the laws governing the flow of water in pipes and conduits; the determination of water power in streams, and the testing of hydraulic motors.

Text-book: Merriman's Hydraulics.

FIFTH, OR GRADUATE YEAR.

This department offers facilities for one year of post-graduate work in civil engineering, leading to the degree of C. E. The work of this course is given in table of studies on last pages of this book.

DEPARTMENT OF MATHEMATICS.

PROFESSOR RIDDICK.
ADJUNCT—PROFESSOR YATES.

It will be the aim of this department to give the young men a thorough and practical knowledge of Pure Mathematics. All students are required to do as much supplementary work as the time will permit, for no principle is well learned by a pupil and thoroughly fixed in his mind till he can use it.

The course in Mathematics begins in the Freshman year, and is completed by the students in the Mechanical Course at the close of the Winter Term of the Senior year. Agricultural students drop the study of Mathematics after having finished Trigonometry.

FRESHMAN CLASS.

During this year it is our purpose to complete Arithmetic and Algebra to higher equations. The young men are required to solve the problems by neat and intelligent methods, and are kept free from set rules and formulas.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

Text-books: Milne's Arithmetic, Wells' Higher Algebra.

SOPHOMORE CLASS.

This class completes Algebra during the Fall Term. The remainder of the session is devoted to plane and solid Geometry, with numerous exercises for original solution.

Every effort is directed to lead students to pursue these studies without feeling that they are characterized by arbitrary laws and mysterious processes; in other words, to work by reason, and not by rules and memory.

During the latter part of the year the class has, in addition two recitations a week in Trigonometry.

Text-books: Wentworth's Geometry, Wentworth's Trigonometry.

JUNIOR CLASS.

The first part of the year is spent in the completion of Trigonometry, with practical applications. The remainder of the session is devoted to Analytical Geometry.

Much exercise work will be done, since it is only by solving problems, which require some degree of original thought that any real mastery of the study can be gained.

Text-book: Nichol's Analytical Geometry.

SENIOR CLASS.

This class will begin Calculus at the beginning of the session and complete the same by the end of the Winter Term.

Text-book: Taylor's Calculus.

ENGLISH DEPARTMENT.

PROFESSOR HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and with ease, and be an intelligent and appreciative interpreter of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is gradually adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

Four Recitations a Week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text books: Lockwood's Lessons in English; Strang's Exercises. Critical Readings for 1896–7: Thurber's Addison's Essays.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by a course in the elements of Rhetoric. In this course in Rhetoric special attention will be paid to the analysis of themes and their subsequent elaboration, step by step. Much of this work will be done in the lecture-room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text-books: Lounsbury's English Language, Genung's Outlines of Rhetoric. Critical Readings for 1896–7: Leach's DeQuincey, Gray Lyrics.

JUNIOR CLASS.

Three Times a Week.

The first part of this year .will be spent upon Logic and Logical Praxis. Afterwards the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it.

Text-books: Jevon's Logic, Gregory's Practical Logic, Genung's Rhetoric and Rhetorical Analysis, Lectures. Critical Readings for 1896–7: Two of Webster's Speeches, Milton Lyrics, Garnett's English Prose.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. Some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for 1896–7: Thayer's Select Plays will be used in class-work.

Text-books: Fiske's Taine's Literature, Hawthorne and Lemmon's American Literature, Lectures on Poetry, Garnett's and Thayer's Selections, Browne's Versification, Hudson's or Rolfe's editions of Shakespeare.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT—PROFESSOR YATES.

All students in the Sophomore Class will be required to take single-entry bookkeeping during the Spring Term.

The work in the text-books will be supplemented by numerous original examples and sets for practice.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern. They are taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather than to memorize isolated facts—in other words, the chief effort is directed towards teaching students how to read and to think, rather than to recite.

Instructions will be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers and Green.

Students will also be encouraged and guided in outside readings on special subjects, for which the College Library will afford ample conveniences.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

LIEUTENANT-COLONEL NATHAN HALE BARNES, F. S. M. I.
LIEUTENANT U. S. N., RETIRED.

All students are required to drill three hours a week—Monday, Wednesday and Friday, from 4 to 5 P. M.

The instruction is in the U. S. Army Infantry Drill Regulations, closed and extended order, including the School of the Soldier, the School of the Company, and the School of the Battalion, with target practice and lectures on Military Science.

The Battalion is organized as infantry, in three companies. The uniform is of cadet gray, with white gloves. Each Collegiate student is required to have one uniform, costing about seventeen dollars, and to wear it when on drill and when performing any military duty, such as Officer-of-the-Day. When uniform is worn, it must be complete—not mixed with civilian's dress—and the coat must be fully buttoned. Preparatory students will take part in all drills, and may wear the uniform, but with them the latter is not compulsory.

Each cadet officer will, in turn, perform duty as Officer-of-the-Day, when he will be excused from all other duties. He will make a daily inspection of quarters, accompany the Military Instructor on his rounds of inspection, visit the room of each instructor each study or practice period, obtain a list of absentees from each, and see that all absentees are properly absent or send them to their duty. He will make in duplicate a daily report of all absentees from any duty, and all infractions of discipline that may come to his knowledge.

CADET OFFICERS OF THE BATTALION.

Company A.	Company B.	Company C.
Captain Howard.	Captain Williams.	Captain Whitted.
1st Lieut. Smithwick.	1st Lieut. Fraps.	1st Lieut. Mewborne.
2d Lieut. Jackson.	2d Lieut. Knight.	2d Lieut Wootten.
1st Sergt. Clark, G.	1st Sergt. Buffaloe.	1st Sergt. Kendall.
2d Sergt. Harris.	2d Sergt. Clark, C.	2d Sergt. Gibbon.
3d Sergt. McLendon.	3d Sergt. Highsmith.	3d Sergt. Carroll.
4th Sergt. Syme.	4th Sergt. Primrose.	4th Sergt. Oliver.

1st Lieut. and Adjutant Allen.

1st Lieut. and Quartermaster Green.

Sergeant-Major Harper.

Color-Sergeant Merritt.

Music Corporals Birdsong and Waitt.

LOCATION.

The original college site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purpose of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from the corporate limits, the site is, in all respects, a suitable one. The ground slopes from the buildings in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

The water is unusually good and the supply abundant.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about six years, and the land is being brought up mainly by judicious vegetable manuring. Eighteen acres adjoining the College on the west have been purchased, in addition to the original tract, and still more land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

MAIN BUILDING.

This is of brick, with brownstone trimmings, and is 170 by 60 feet; part four stories in height, and the remainder two.

The two lower floors contain the offices of the President, Secretary of the Faculty and Bursar; the library; recitation rooms; chemical, physical and biological laboratories; the chapel and the armory.

The two upper stories are occupied by students.

In this, as in all other buildings, every precaution has been taken to secure good sanitation. The rooms are all well lighted, well ventilated and conveniently arranged.

SHOP.

This a plain, but substantial, roomy and carefully-planned brick building, two stories high, and having a total floor space of about 12,500 square feet. It contains the various shops, the Engineering and Mechanical Laboratory, drawing-rooms and recitation-rooms.

DORMITORIES.

The College has four brick dormitories, containing, in all, fifty-four students' rooms.

WATAUGA HALL.

This is a handsome three-story brick building, and is named in honor of the Watauga Club, which was largely instrumental in securing the establishment of the College. The first floor contains a kitchen, a dining-room, and a cloak-room, while the two upper stories are occupied by students.

BOILER-HOUSE.

This is a single-story brick building, containing boilers, fire-pump, and all the machinery connected with the steam-heating plant.

BARN, DAIRY, GREENHOUSE.

These are all frame buildings, of modern design, and carefully planned for the purposes to which they are devoted. The barn is 50 by 72 feet, and three stories high; the dairy is 20 by 40 feet, and two stories high—the upper story being used as the Agricultural Society hall; the greenhouse is 20 by 50 feet.

HEAT AND LIGHT.

All the buildings are heated with steam, and are lighted with incandescent electric lamps.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term.

Although students will be admitted at any time, the best time to enter College is at the beginning of the scholastic year, with the Fall Term. Students desiring to enter as late as the Spring Term, will find it impossible to pass the necessary examination, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand an examination which will show ample preparation for the class he may wish to enter.

REPORTS.

Reports of deportment and absence from College duties are sent at the end of every month, and attention is called to any lack of diligence on the part of the student.

Reports of scholarship and deportment are also sent at the end of each term. In the grading 100 is the maximum, 90 or over is considered excellent, 80 or over creditable. To pass, the student must make 60. In calculating the average for the term each subject counts equally.

HONORS.

The Punctuality Roll contains the names of students who have not been absent from a single exercise during the year.

The Honor Roll contains the names of those whose average in all studies for the year is 90 or more.

Special Mention is made at graduation to any student whose average in any study during his Junior and Senior years was above 90.

First Distinction is given in each course to the member of the graduating class who makes the highest average for the course—provided such average for the whole course is above 90.

The students attaining first distinction in the courses will be given a place on the Commencement stage, together with two others selected by the Faculty.

DEGREES.

One Baccalaureate degree will be conferred. Upon those who have successfully passed all the examinations in the various studies of the course in Agriculture, the course in Applied Science, or the course in Engineering and Mechanics, the degree of Bachelor of Science (B. S.) will be conferred.

To graduates in the course in Agriculture or in Applied Science who have successfully passed examinations, after a supplementary year's work under direction of the Faculty, the degree of Master of Science will be given. Similarly, the degree of M. E., for work in Mechanical Engineering, and C. E. for work in Civil Engineering. The fee for the Baccalaureate Diploma is $3, and for M. E., C. E. or M. S., $5.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The various Christian denominations are well represented in the student body, and all unite in a Young Men's Christian Association, which meets with regularity and exerts a beneficial influence throughout the College.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

TECHNICAL SOCIETIES.

The Agricultural Society, Mechanical Society, and Berzelius (Chemical) Society have been organized by the students taking most interest in these special departments of study. Their work consists in reviews of the various technical journals, and in original papers.

ALUMNI ASSOCIATION.

This Association of the College graduates meets annually, during Commencement week, and aids in refreshing the pleasant memories of college days, as well as keeping its members in active touch with their *Alma Mater.*

President, C. D. Francks, '93, Raleigh, N. C.
Vice-President, Chas. Pearson, '94, Raleigh, N. C.
Sec.-Treas., E. S. Darden, '95, Speight's Bridge, N. C.

LIBRARY.

The Library, like the College itself, is in its infancy, containing about nineteen hundred volumes. It will be steadily increased by the purchase of standard works and, subject to necessary regulations, students will have free use of the books for general reading and for purposes of reference.

Reference libraries for the use of students have also been placed in the Departments of Agriculture, Horticulture, Chemistry, Physics, English, Mechanical and Civil Engineering.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour.

PRIZES.

A gold medal of the value of ten dollars will be given to the Freshman student who most distinguishes himself in the agricultural work, and a second medal (or the money value thereof, ten dollars) to the student who, in addition to his class-work, earns most money by his skill in agricultural labor outsde, and a third medal (or the money value thereof, five dollars) to the student who, in addition to his class-work, earns the next most money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and family decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities proportional demerit marks will be noted on the report sent to parents or guardians at the end of each term, and it is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to strict account for them, since if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark. Some of our students have so passed through four entire sessions.

Students who persist in grave misconduct will not be permitted to remain in the College.

The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave, as there is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS OF APPLICANTS.

Applicants for the Freshman Class must be at least fifteen years of age; must furnish evidence of good moral character and physical development; must understand the forms and laws of their own language fairly well, and must be familiar with arithmetic, including the practical rules of the same, through fractions, and have a fair knowledge of geography and State history. Applicants for the Sophomore class must pass, in addition, an examination on the studies of the Freshman year.

COUNTY AND PAY STUDENTS.

The law provides for two kinds of students—county and pay. Each county is entitled to as many county students as it has members in the House of Representatives. This class of students is entitled to free tuition and lodging in College dormitories. There is no limit to the number of pay students, and these students will be allowed to lodge in College buildings. The expenses of a pay student are only $30 a year more than those of a county student. Young men desiring to enter as county students must apply to the Board of County Commissioners, who alone have authority to make such appointments; the College authorities cannot make them.

ADMISSION.

The county examiners are usually willing, for a small fee, to conduct the examination of all applicants for admission. This examination will be held at the county-seats on the first Saturday in August, printed copies being furnished for the examiners by the College.

All young men, however, wishing to enter, can be examined at the College on the day before its opening, if they did not pass the examination at the county-seats. These will be held at the following hours: English, 9 A. M.; Mathematics, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M. Examinations for conditional students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report at once to the President of the College, for a permit for examination or for registration.

Students who have passed the examinations for admission, or for advancement to a higher class, will report to the Secretary of the Faculty for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sabbath, students must attend the churches in Raleigh, subject to regulation of the President and Faculty.

Each occupant of a dormitory will be expected to keep his room, or section of room, in good order and ready for inspection at any time.

CLOTHING, ETC.

Each student is required to have one gray uniform suit, costing $16.85; and one pair of blue cotton overalls, costing about $1.50. Each student should bring a hair-brush and comb.

TUITION.

The cost of tuition will be $20 per scholastic year, except to county appointees, who are entitled to tuition and lodging *free of cost*, and to post-graduates, who are excused from tuition fees.

BOARD AND LODGING.

Board and lodging will be furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month, and lodging as below stated.

Board is payable monthly, in advance, and where any student fails to pay promptly on the 1st, notice will be sent to his parent or guardian; and in case payment is not made by the 10th, the student will be dropped from College.

Each student living in the College must bring with him a change of sheets and pillow-cases, four towels and two counterpanes, plainly marked.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1. Tuition free.	
2. Board, at $8 per month, per session of 9½ months	$ 76 00
3. Fuel, lights and medical attendance, but not medicine, for entire session	15 00
Total	$ 91 00

II. FOR OTHER STUDENTS.

1. Tuition, per session	$ 20 00
2. Board, at $8 per month, 9½ months	76 00
3. Fuel, lights and medical attendance, but not medicine, for entire session	15 00
4. For lodging in College building, room, furniture, bedding, etc	10 00
Total	$121 00

Of these charges, $13.75 and $16.85 for uniform must be paid upon entering College, and the remainder *in monthly installments, in advance.*

Each student must also deposit, on entering, a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Each student in Chemistry must make good all apparatus etc., he breaks, and for this purpose must make a deposit at the beginning of the year. These breakages are seldom over fifty cents per year for each hour per week spent in the laboratory.

For deposit in Horticultural laboratory, see that department.

All students must furnish their own oil, lamp chimneys, books, stationery, drawing-pencils, thumb-tacks, and medicines, and arrangements will be made for them to get these at lowest cost.

TABLE OF STUDIES.

FRESHMAN CLASS—FOR ALL COURSES.

	Fall.	*Winter.*	*Spring.*
Agriculture and Physiology	2	2	2
Botany	2	--	1
Botanical Laboratory	--	--	2
Introductory Chemistry	--	2	--
Physics	2	2	2
Physical Laboratory	2	2	2
Algebra	7	5	5
English	4	4	4
History	1	1	1
Carpenter Shop	4	4	4
Freehand and Mechanical Drawing	3	3	3

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COURSE IN AGRICULTURE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Agriculture	--	2	2
Agricultural Practice	2	4	4
Botany	4	2	--
Botanical Laboratory	4	4	4
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Geometry and Trigonometry	5	5	7
English	3	3	3
History	1	1	1
Drawing	5	2	--

JUNIOR CLASS.

Agriculture	3	3	3
Dairy Practice	4	4	--
Horticulture	2	3	2
Horticultural Practice	4	4	--
Agricultural Chemistry	3	3	3
Qualitative and Quantitative Analysis	6	6	6
Surveying	--	2	2
Field Practice in Surveying	--	--	9
English	3	3	3
History	1	1	1

SENIOR CLASS.

Agriculture	5	5	5
†Agricultural Practice	2	2	2
Horticulture	4	4	4
†Horticultural Practice	4	4	4
*Organic and Theoretical Chemistry	3	3	3
Agricultural Chemical Analysis	8	8	8
English	3	3	3
History	1	1	1

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† Agricultural Chemical Analysis may be substituted.

* Agricultural and Horticultural Practice may be substituted.

Seventh Curriculum, 1895-1896 Slide 3

COURSE IN ENGINEERING AND MECHANICS.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Architecture	3	2	--
Mechanical and Architectual Drawing	5	5	5
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Geometry and Trigonometry	5	5	7
English	3	3	3
History	1	1	1
Shopwork (Wook-turning and Pattern-making),	6	6	6

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Mechanics and Graphic Statics	2	2	2
Drawing	5	5	5
Industrial Chemistry	1	1	1
Steam, Valve Gears, Boilers	4		
Engineering Laboratory	--	--	1
Elements of Mechanism	--	1	--
Mechanism of Cotton Machinery	--	--	2
Electricity and Magnetism	1	1	1
Analytical Geometry	4	3	3
Surveying and Field Practice	--	2	11
English	3	3	3
History	1	1	1
Shopwork (Forging)		9	--

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Applied Mechanics	2	5	2
Roofs and Bridges	3	--	--
Hydraulics	--	--	2
Mill Engineering	--	--	2
Drawing (Machine Design	5	5	5
Heating and Ventilation	--	--	1
Engineering Laboratory	--	--	1
Electrical Engineering	1	1	1
Electrical Testing	2	2	2
Calculus	4	4	--
English	3	3	3
History	1	1	1
Shopwork (Chipping, Filing and Machine W'k),	9	9	9
Thesis	--	--	1

COURSE IN APPLIED SCIENCE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	4	2	--
Botanical Laboratory	4	4	4
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Mathematics	5	5	7
English	3	3	3
History	1	1	1
Drawing	5	5	5

JUNIOR CLASS.

Elective	7	8	8
Mathematics	4	3	3
English	3	3	3
History	1	1	1
Elective practice work	15	15	15

SENIOR CLASS.

Elective	11	11	11
English	3	3	3
History	1	1	1
Elective practice work	15	15	15

POST-GRADUATE COURSE IN MECHANICAL ENGINEERING.

	Fall.	*Winter.*	*Spring.*
Steam Engineering	3	3	3
Heat	1	..	..
Physical Laboratory	4	4	4
Metallurgy	1	1	1
Boilers	..	..	1
Shop Visits	1	1	1
Hydraulics and Hydraulic Motors	1	1	1
Machine Design	4	4	4
Engineering Laboratory	2	2	2
Advanced Applied Mechanics	3	3	3
Mill Engineering	2	2	2
Least Squares	2	..	..
Differential Equations	.	1	..
Precision of Measurements	..	..	1
English	2	2	2
Thesis	5	5	5

POST-GRADUATE COURSE IN CIVIL ENGINEERING.

	Fall.	*Winter.*	*Spring.*
Mechanics	4	..	..
Mechanics of Machinery	..	2	2
Topographical Surveying	..	2	4
Construction		4	4
R. R. Surveying	4	..	..
Sanitary Engineering	3	3	3
Astronomy	3	3	.
Bridge Design	6	6	..
Hydraulics	..	..	4
English	2	2	2
Mill Engineering	2	2	2
Physical Laboratory	1	1	1
Least Squares	2	..	..
Applied Mechanics	3	3	
Geodetic Surveying	..	..	3
Road Making	..	..	3
Thesis	..	5	5

CALENDAR.

1896.

Thursday, January 2, Winter Term begins.
Saturday, February 15, Announcement of subjects for Theses.
Friday, March 20, Winter Term ends.

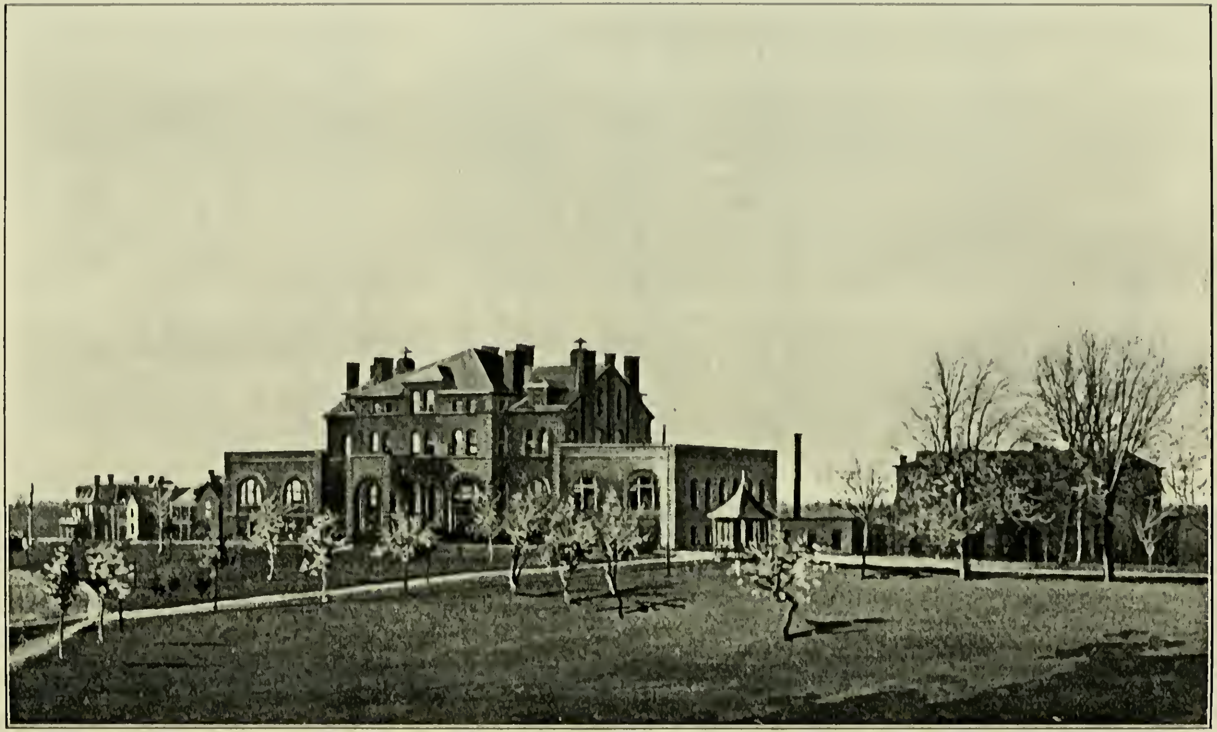
Tuesday, March 24, Spring Term begins.
Saturday, May 23, Last day for submitting Theses.
Friday, May 29, Senior examinations end.
Friday, June 5, Examinations end.
Wednesday, June 10, Commencement Day.

August 1, First Saturday, } Examinations for admission at county-seats by county examiners
Wednesday, September 2, Examinations for admission.
Thursday, September 3, Fall Term begins; Registration Day.
Friday, September 4, Recitations begin
Thursday, November 26, Thanksgiving Day.
Wednesday, December 23, Fall Term ends.

1897.

Tuesday, January 5, Winter Term begins; Registration Day.
Monday, February 15, Announcement of Subjects for Theses.
Friday, March 19, Winter Term ends.

Tuesday, March 23, Spring Term begins; Registration Day.
Friday, May 21, Last day for submitting Theses.
Friday, May 28, Senior examinations end.
Friday, June 4, Examinations end.
Sunday, June 6, Baccalaureate Sermon.
Tuesday, June 8, Annual Oration.
Wednesday, June 9, Commencement Day.



COLLEGE AND GROUNDS.

EIGHTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH.

1896-1897.

FALL TERM BEGINS THURSDAY, SEPTEMBER 9th, 1897.

WINSTON:
M. I. & J. C. STEWART, PUBLIC PRINTERS AND BINDERS.
1897.

BOARD OF TRUSTEES.

HON. J. C. L. HARRIS, RALEIGH.

PRESIDENT OF THE BOARD.

First Appointed.	*Members.*	*Representative of*	*Term Expires.*
1897	COL. L. C. EDWARDS, Oxford	State-at-Large	1903
1897	HON. J. C. L. HARRIS, Raleigh	State-at-Large	1903
1897	HON. W. G. POOL, Elizabeth City	State-at-Large	1903
1897	HON. E. V. COX, Coxville	First District	1903
1897	PROF. JAMES J. BRITT, Bakersville	Ninth District	1903
1897	HON. E. G. BUTLER, Dabney	State-at Large	1901
1897	HON. JOHN W. HARDEN, JR., Raleigh	State-at Large	1901
1897	DR. MATT MOORE, Warsaw	Third District	1901
1897	HON. J. Z. WALLER, Burlington	Fifth District	1901
1897	DR. M. D. KIMBROUGH, Mocksville	Seventh District	1901
1897	HON. HENRY G. CONNOR, Wilson	Second District	1899
1897	PROF. JOSEPH R. CHAMBERLAIN, Raleigh	Fourth District	1899
1897	HON. HENRY E. BONITZ, Wilmington	Sixth District	1899
1897	DR. B. F. DIXON, King's Mountain	Eighth District	1899
1897	ALEX. Q. HOLLADAY, LL. D	Pres. A. & M. College.	*Ex-officio.*

EXECUTIVE COMMITTEE.

J. C. L. HARRIS, *Chairman.*

E. V. COX, J. Z. WALLER,

E. G. BUTLER, W. G. POOL.

FINANCE COMMITTEE.

JOHN W. HARDEN, JR., *Chairman.*

DR. B. F. DIXON, COL. L. C. EDWARDS.

FACULTY AND OFFICERS.

Alexander Q. Holladay, LL. D., *President and Professor of History.*

LL. D. 1896. Davidson College; studied at Univ. of Va. and Univ. of Berlin: President of Stonewall Jackson Institute, Va., 1881 '84: President and Professor of English, Florida Agricultural College, 1884-'89.

W. F. Massey, C. E., *Professor of Horticulture, Arboriculture and Botany.*

C. E. 1859. Union College, N. Y.; studied also at Washington College, Md., and Dickinson College, Pa.: Examiner Public Schools, Kent county, Md., 1868-'75: Director Department of Agriculture, Miller Manual Training School, Va., 1885-'89.

W. A. Withers, A. M., *Professor of Pure and Agricultural Chemistry, and Secretary.*

A. B. 1883, and A. M. 1885, Davidson College; post-graduate student Cornell University, N. Y., 1888-'90 (Fellow 1889-'90); Assistant Chemist N. C. Agricultural Experiment Station. 1884 '88; Fellow American Association for Advancement of Science.

D. H. Hill, A. M., *Professor of English.*

B. Irby, M. S., *Professor of Agriculture.*

B. S. 1884, and M. S. 1887, Miss. Agricultural College; Professor of Agriculture, Miss. Agricultural College, 1887-'88; Manager Cycloneta Experiment Farm of Georgia Southern & Florida Railroad, 1888-'92; Fellow American Association for Advancement of Science.

W. C. Riddick, A. B., C. E., *Professor of Civil Engineering and Mathematics.*

A. B. 1885, University of North Carolina: C. E. 1890, Lehigh University, Pa.: recently with Roanoke Navigation and Water Power Company.

Nathaniel R. Craighill, S. B., *Professor of Mechanical Engineering.*

S. B. 1893 in Mechanical Engineering, and 1894 in Electrical Engineering, Mass. Institute of Technology: recently with Victoria Cotton Mills, Newburyport, Mass., and Bell Telephone Co. of Philadelphia.

Nathan Hale Barnes, A. M., Ph. D., *Professor of Physics and Electrical Engineering.*

A. M. and Ph. D., Illinois College; Graduate U. S. Naval Academy and of U. S. Naval Torpedo School: Lieutenant U. S. Navy (retired): Lieutenant-Colonel Florida State Military Institute; formerly Instructor in Military and Natural Sciences, Illinois College, and in Florida State Military Institute.

John C. Gresham, Capt. U. S. Army, *Professor of Military Science and Tactics.*

Graduate U. S. Military Academy: Capt. 7th Cavalry U. S. Army: recently Professor of Military Science and Tactics, Va. College of Agriculture and Mechanic Arts.

R. E. L. YATES, A. M., *Adjunct Professor of Mathematics.*

FRANK E. EMERY, M. S., *Assistant Professor of Agriculture.*

B. S. 1883, and M. S. 1893, Maine State College; recently Farm Superintendent of Houghton Farm, N. Y., and of N. Y. Agricultural Experiment Station: Agriculturist N. C. Agricultural Experiment Station.

CHARLES M. PRITCHETT, B. S., M. E., C. E., *Instructor in Drawing and Shop Work.*

B. S. 1891, Georgia School of Technology; M. E. 1895, C. E. 1896, N. C. College of Agriculture and Mechanic Arts.

CHARLES B. PARK, *Superintendent of Shops.*

Recently with Allen & Cram, founders, Raleigh, N. C., and machine shops of Seaboard Air Line Railroad.

B. S. SKINNER, *Farm Superintendent.*

Recently of Perquimans county.

J. A. BIZZELL, B. S., *Assistant in Chemistry.*

B. S. 1895, N. C. College of Agriculture and Mechanic Arts.

DAVID CLARK, B. E., M. E., *Assistant in Drawing and Shops.*

B. E. 1896, M. E. 1895, N. C. College of Agriculture and Mechanic Arts.

A. H. PRINCE, B. S., *Assistant in Dairying.*

B. S. 1895, N. C. College of Agriculture and Mechanic Arts.

C. D. FRANCKS, B. E., *Assistant in English and Mathematics.*

B. E. 1893. N. C. College of Agriculture and Mechanic Arts.

L. R. WHITTED, B. S., *Assistant in Physics and Electricity.*

B. S. 1896, N. C. College of Agriculture and Mechanic Arts.

J. I. BLOUNT, B. E., *Tutor of Sub-Freshman Class.*

B. E. 1895, N. C. College of Agriculture and Mechanic Arts; student of Cornell University, N. Y., 1895-'96.

MRS. SUE. E. CARROLL, *Matron.*

Recently of Sampson county.

JAS. R. ROGERS, M. D., *Physician.*

A. B. 1892, Wake Forest College: M. D. 1896, College of Physicians and Surgeons, Baltimore, M. D.

STUDENTS (247.)

POST-GRADUATES (7).

Name.	*Post Office.*	*County.*	*Major Course.*
James Adrian Bizzell	Dunn	Harnett	Chemistry.
B. S. '95, N. C. College of Agriculture and Mechanic Arts.			
John Isham Blount	Faison	Sampson	Civil Eng.
B. E. '95, N. C. College of Agriculture and Mechanic Arts.			
David Clark	Raleigh	Wake	Civil Eng.
B. E. '95, and M. E. '96, N. C. College of Agriculture and Mechanic Arts.			
George Stronach Fraps	Raleigh	Wake	Chemistry.
B. S. '96, N. C. College of Agriculture and Mechanic Arts.			
Christ. Miller Hughes	Raleigh	Wake	Chemistry.
B. E. '95, N. C. College of Agriculture and Mechanic Arts.			
Abram Hinman Prince	Henderson	Vance	Agriculture.
B. S. '95, N. C. College of Agriculture and Mechanic Arts.			
Levi Romulus Whitted	Stainback	Alamance	Civil Eng.
B. S. '96, N. C. College of Agriculture and Mechanic Arts.			

CLASS OF 1897—SENIORS (18).

Name.	*Post Office.*	*County.*
Joseph Samuel Buffaloe	Rand's Mill	Wake.
John William Carroll	West Raleigh	Wake.
Charles Edward Clark	Charlotte	Mecklenburg.
Wm. Alexander Graham Clark	Raleigh	Wake.
Nicholas Louis Gibbon	Derita	Mecklenburg.
Cebern Dodd Harris	Raleigh	Wake.
Jere Eustis Highsmith	Parkersburg	Sampson.
Clyde Bennett Kendall	Polkton	Anson.
Sidney Gustavus Kennedy	Coahoma	Lenoir.
Joseph Lawrence Knight	Mildred	Edgecombe.
Walter Jones McLendon, Jr.	Wadesboro	Anson.
Repton Hall Merritt	Wilmington	New Hanover.
Albert Hicks Oliver	Mt. Olive	Wayne.
Hugh Williams Primrose	Raleigh	Wake.
Willis Hunter Sanders	Dunn	Harnett.
Lea Watson	Raleigh	Wake.
Bradley Jewett Wootten	Wilmington	New Hanover.

IRREGULAR.

Thomas Jehu Smithwick	Sans Souci	Bertie.

CLASS OF 1898—JUNIORS (20).

Name.	*Post Office.*	*County.*
Dorsey Frost Asbury	Chambers	Burke.
Anson Elikem Cohoon	Elizabeth City	Pasquotank.
Hugh McCollum Curran	Westboro	Mass.
Benjamin Carey Fennell	Raleigh	Wake.
Alpheus Rountree Kennedy	Coahoma	Lenoir.
Frederick Creecy Lamb	Elizabeth City	Pasquotank.
Sidney Franklin Mauney	Gold Hill	Rowan.
Edwin Bentley Owen	Michael	Davidson.
Moore Parker	Raleigh	Wake.
Vernon Badham Ramseur	Hendersonville	Henderson.
Numa Reid Stansel	Allenton	Robeson.
Teisaku Sugishita	Kokufu, Hida	Japan.
Dalma Ozark Uzzle	Wilson's Mills	Johnston.

IRREGULAR (7).

Clement Bruce Adams	Monroe	Union.
Sidney Hamilton Beck	Table Rock	Burke.
Fred Charles Doyle	Raleigh	Wake.
Theodotus Capers Hamby	Georgetown	S. C.
Clarence Haywood Joyner	Pendleton	Northampton.
Mark Squires	Lenoir	Caldwell.
George Frederick Syme	Raleigh	Wake.

CLASS OF 1899—SOPHOMORES (58).

Name.	*Post Office.*	*County.*
Wm. Davidson Alexander, Jr.	Croft	Mecklenburg.
Ira Wilson Barber	Culler	Surry.
John Henderson Birdsong.	Raleigh	Wake.
Manly Wingate Boushall	Belcross	Camden.
Junius Long Capehart	Kittrells	Vance.
James Watts Copeland, Jr.	Statesville	Iredell.
Francis Marion Foy	Scotts Hill	Pender.
Jesse Weston Gill	Raleigh	Wake.
Ira May Hardy	Goldsboro.	Wayne.
Loften Boykin Hargrove	William's Mill	Chatham.
Charles Jay Harris	Mebane	Alamance.
Kimbrough Jones, Jr.	Raleigh	Wake.
Gerald O'Keefe Kendrick	Raleigh	Wake.
Frank Banks Kuykendal	Davenport	Mecklenburg.
Floy Lambe	Durham	Durham.

Name.	*Post Office.*	*County.*
Fred. Henry Lemly	Salem	Forsyth.
Albert Sidney Lyon	Wilton	Granville.
Edward Herbert Maddrey	Seaboard	Northampton.
Carroll Lamb Mann	Englehard	Hyde.
William Henry Mason	Edenton	Chowan.
O'Kelly William Myers	Washington	Beaufort.
Eugene LeRoy Parker	Raleigh	Wake.
David Emsley Patterson	Durham	Durham.
Eugene Gray Person	Louisburg	Franklin.
Archie Willie Railey	Lotta	Hertford.
Samuel Eli Richardson	Waxhaw	Union.
David Gillespie Robeson, Jr.	West Brook	Bladen.
Charles Shober Siewers	Salem	Forsyth.
Frederick Erastus Sloan	Statesville	Iredell.
John Lewellen Steelman	Oakwoods	Wilkes.
William Ashley Stevenson	Raleigh	Wake.
William Caswell Sugg	Old Sparta	Edgecombe.
John Leavy Swindell	Raleigh	Wake.
Ralph Bingham Sykes	Rock Spring	Orange.
William Anderson Syme	Raleigh	Wake.
Thomas Fuller Terrell	Raleigh	Wake.
Irving Burchard Tucker	Fair Bluff	Columbus.
Joseph McKeehan Tull	Morganton	Burke.
Darius Samuel Waitt	Raleigh	Wake.
Hugh Ware	King's Mountain	Cleveland.
Charles Whitaker	Littleton	Warren.
Claud Burgess Williams	Elizabeth City	Pasquotank.
Edgar Calvin Yarbrough	Semora	Caswell.
Hubert Burnette Young	Raleigh	Wake.

IRREGULAR (14).

John Fennell	Raleigh	Wake.
James Atlas Hood	Granthams	Wayne.
Evander Frank Kelly	Victor	Moore.
George Washington Mordecai	Raleigh	Wake.
Frank Emil Lowenstein	Statesville	Iredell.
Jacob Rankin Parks, Jr.	Cope	Randolph.
Frank Newcomb Pinner	Southport	Brunswick.
Andrew Thomas Smith	Oxford	Granville.
James Spencer Spainhour	Lenoir	Caldwell.
Alexis Preston Steele	Statesville	Iredell.
Norris F. Steele	Turnersburg	Iredell.
George Clifford Uzzle	Wilson's Mills	Johnston.
Silas McBee Wetmore	Lincolnton	Lincoln.
Joseph D. Woodley	Creswell	Washington.

CLASS OF 1900—FRESHMEN (116).

Name.	*Post Office.*	*County.*
James Oscar Abernethy	Mt. Holly	Gaston.
Will Ralph Abernethy	Newton	Catawba.
Kemp Alexander	Harrisburg	Cabarrus.
William Allen	Raleigh	Wake.
Elizabeth Albert Anderson	Campinos	Brazil.
Peter Anderson	Campinos	Brazil.
Wm. Mebane Atwater	Rialto	Chatham.
Leslie Graham Berry	Washington	Beaufort.
Richard Bettis Boger	Morganton	Burke.
George Theodore Bost	Maiden	Catawba.
James Alexander Brown	Huntersville	Mecklenburg.
Carney John Bryan	Washington	Beaufort.
Fred. Outlaw Hend'rs'n Bryan	Raleigh	Wake.
James Harry Bunn	Henderson	Vance.
Aaron Headen Bynum	Pittsboro	Chatham.
Colin Campbell	Newton	Catawba.
John William Carroll	Cherryville	Gaston.
Edison Black Council	Council Station	Bladen.
Lloyd Conrad Davis	Falling Creek	Lenoir.
Marion Stuart Davis	Louisburg	Franklin.
Edwin Stanhope Dunn	Neuse	Wake.
Duncan Moore Faison	Raleigh	Wake.
Henry Ferguson	Neuse	Wake.
Harris Augustus Fetner	Raleigh	Wake.
Brantley Hillyard Finch	Lexington	Davidson.
Gordon Mickel Finger	Charlotte	Mecklenburg.
Frank Garvin	Newton	Catawba.
Denton Gibbs	Middleton	Hyde.
Lee Goode	Connellys Sprgs	Burke.
James Terrell Green	Pea Ridge	Polk.
Henry Griffin	Rocky Mt	Nash.
James Baker Hall, Jr	Scotland Neck	Halifax.
Samuel Merrill Hanff	Raleigh	Wake.
George Roland Harrell	Kelford	Bertie.
Marion Morgan Harris	Fairfield	Hyde.
Charles Lewis Hartley	Kendall	Wilkes.
Charles Garrett Harrison	Medoc	Halifax.
Julian Hester	Creedmore	Granville.
James Reece Hill	Clio	Iredell.
William Theophilus Hinton	Greensboro	Guilford.

Name.	*Post Office.*	*County.*
Louis Calvin Holman	Raleigh	Wake.
Albert Boyd Homesley	Charlotte	Mecklenberg.
Lynn Howland	Hillsboro	Orange.
Henry Allen Huggins	Wilmington	New Hanover.
Philip Barbee Hutchins	Chapel Hill	Durham.
John Alfred Ireland	Burlington	Alamance.
Hamner Carson Irwin, Jr	Charlotte	Mecklenburg.
Daniel Russell Johnson	Town Creek	Brunswick.
Joseph Bingham Kinsey	La Grange	Lenoir.
Robert Graham Knox	Cleveland	Rowan.
John Wolfe Kuykendal	Davenport	Mecklenburg.
Robert Lee Lumsden	Raleigh	Wake.
Malcom Purcell McLean	Maxton	Robeson.
Isaiah McPhail, Jr	Clinton	Sampson.
Cornelius Maglenn	Raleigh	Wake.
Louis Henry Mann	Middleton	Hyde.
Haywood Merritt	Pittsboro	Chatham.
Henry Harrison Milton	Albemarle	Stanly.
Fred Earl Mitchell	Raleigh	Wake.
Charles Ernest Moore	Charlotte	Mecklenburg.
Charles Elbert Moore	Moyton	Wilson.
Robert Hall Morrison	Mariposa	Lincoln.
Gerald Bruce Newby	Hertford	Perquimans.
John Ernest Niemyer	Raleigh	Wake.
Frederick Gaskill Parker	New London	Stanly.
William Leak Peace	Oxford	Granville.
Daniel Allen Pool	Wadeville	Montgomery.
Junius Edward Porter	Emerson	Bladen.
John Russell Powell	Hibritten	Caldwell.
Joseph Oregon Renn	Durham	Durham.
Alexis Robeson	Tar Heel	Bladen.
William Edwin Rose	Statesville	Iredell.
Robert Meeker Sanders	Charlotte	Mecklenburg.
Ira Obed Schaub	Culler	Stokes.
Joseph William Scull	Windsor	Bertie.
Washington Irving Shaw, Jr	Gravel Hill	Bladen.
William Holden Sherwood	Raleigh	Wake.
John Wade Shore	Boonville	Yadkin.
Lewis Cotten Skinner	Greenville	Pitt.
Henry Judson Smith	Itam.	Rutherford.
Zebulon Vance Snipes	Granthams	Wayne.
Jake Stirewalt	Statesville	Iredell.
John Wesley Stroup	Waco	Cleveland.
George Edward Sutton	La Grange	Lenoir.

Name.	*Post Office.*	*County.*
Hilary Emory Sykes	Rock Spring	Orange.
Thomas Albert Uzzell	La Grange	Lenoir.
John Thomas Talton	Smithfield	Johnston.
Walker Council Vick	Council Station	Bladen.
Fletcher Harden Wagstaff	Olive Hill	Person.
Roscoe Marvin Wagstaff	Olive Hill	Person.
Ralph Lamar Webb	Shelby	Cleveland.
David Evans Wharton	Washington	Beaufort.
Gaither Hall Whiting	Raleigh	Wake.
Willie Edgar Williams	Reidsville	Rockingham.
Edward Wood, Jr	Edenton	Chowan.
Edwin Fuller Wyatt	Durham	Durham.
Henry Elias Wyatt	Raleigh	Wake.

IRREGULAR (19).

Washington E. Bateman	Columbia	Tyrrell.
Zebulon Vance Blount	Faison	Sampson.
Samuel Young Bryson	Hendersonville	Henderson.
Paul Collins	Raleigh	Wake.
Sam. B. Crump	Jerusalem	Davie.
John Enoch Douthit	Bower	Forsyth
Henry Abram Howell	Gatesville	Gates.
Rufus Walter King [Jr]	Raleigh	Wake.
J. Cooper Steadman Lumsden.	Raleigh	Wake.
Thomas Marshall McCoy	Bristow	Mecklenburg.
Marcus Clifton Pearce	La Grange	Lenoir.
Lewis Wood Physioc	Raleigh	Wake.
Charles Sylvanus Shuford	Calhoun	Transylvania.
Edward Gardner Smith	Garden City	Long Isl'd N.Y.
Wm. Nathan Harold Smith	Raleigh	Wake.
Robert Leach Taylor	Leachburg.	Johnston.
Numa Fletcher Turner	Banks	Wake.
John David Whitford, Jr	Newbern	Craven.
Adolphus Hill Yearby	Durham	Durham.

SUB-FRESHMAN CLASS (28).

Name.	*Post Office.*	*County.*
Daniel Edward Abernethy	Newton	Catawba.
Wade Ruffin Brooks	Black Creek	Wilson.
Wm. McDowell Burgin, Jr	Marion	McDowell.

Name.	*Post Office.*	*County.*
John Robert Byrd	Barclaysville	Harnett.
Wm. Edward Cannady	Wilton	Granville.
Alexander Lilington Clark	Weldon	Halifax.
Wm. Pescud Craig	Marion	McDowell.
David Grier Dellinger	Cherryville	Gaston.
David Ira Fort, Jr	Raleigh	Wake.
Otto William Genaust	Wilmington	New Hanover.
Earle McKee Goodwin	Method	Wake.
Wade Hampton Grant	Snead's Ferry	Onslow.
Henry Benjamin Hardy, Jr	Raleigh	Wake.
Robert Emmett Houston	Greenville, S. C.	
Samuel Cabe Johnston	Chapel Hill	Orange.
Lewis Omer Lougee	Raleigh	Wake.
Samuel Alford McAnally	Red Shoals	Stokes.
Charles Ernest Moore	Wilson	Wilson.
John Larmour Parrott	Kinston	Lenoir.
John Pearce, Jr	Pollocksville	Jones.
Simmons Whitaker Sebrell	Wilmington	New Hanover.
Frank Patillo Smith	Guilford College	Guilford.
Wm. Sidney Smethurst	Raleigh	Wake.
Edwin Ferebee Tillery	Halifax	Halifax.
David Augustus Watford	Coleraine	Bertie.
James Wilcox	Elizabeth City	Pasquotank.
Joe Emerson Winstead	Wilmington	New Hanover.
Robert Webb Wynne	Raleigh	Wake.

COMMENCEMENT 1896.

BACCALAUREATE SERMON

BY

THE REV. A. D. THAELLER, SALEM, N. C.

ANNUAL ADDRESS

BY

PREST. CHAS. D. McIVER, LL. D., NORMAL AND INDUSTRIAL COLLEGE, GREENSBORO, N. C.

GRADUATES AND SUBJECTS OF THESES.

Name.	*Postoffice.*	*County.*	*Course.*
With the degree of Bachelor of Science (B. S.).			
*DANIEL ALLEN	Raleigh	Wake	Agr'lture.
The use of glass in Plant Forcing.			
*GEO. STRONACH FRAPS	Raleigh	Wake	Science.
The action of Phosphorus trichloride upon an Ethereal Solution of Hydrogen Peroxide.			
MARION JACKSON GREEN	Bostic	Rutherford	Eng'g.
Design of a System of Sewerage for the College and surrounding community.			
†JOHN HOWARD	Tarboro	Edgecombe	Eng'g.
Design of a two-pole Series Dynamo.			
†WM. COLBERT JACKSON	Winterville	Pitt	Agr'lture.
How to drain the soil of surplus water, and at the same time store up a normal supply for future use.			
†ROB'T GRAH'M MEWBORNE	Kinston	Lenoir	Science.
The determination of Sulphur in Pyrites.			
*LEVI ROMULUS WHITTED	Stainback	Alamance	Eng'g.
Design of a Steam Engine.			
HENRY LLOYD WILLIAMS	Willeyton	Gates	Eng'g.
Design of a two-pole Series Dynamo.			
With the degree of Master of Science (M. S.).			
SAM'L ERSON ASBURY, B. S.	Gastonia	Gaston	Chemistry.
The chemical changes occurring in silage during fermentation.			

Name.	*Postoffice.*	*County.*	*Course.*
CHAS. BURGESS WILLIAMS	Indiantown	Camden	Chemistry.

Estimation of phosphoric acid in soil by double precipitation with molybdic solution and titration of the ammonium phospho-mloybdate, with standard alkali.

With the degree of Mechanical Engineer (M. E.)

DAVID CLARK, B. E.	Raleigh	Wake	Mech. Eng.

Design of a tandem compound engine.

WILLIAM HENRY HARRISS	Warrenton	Warren	Mech. Eng.

Design of a tandem compound engine.

With the degree of Civil Engineer (C. E.).

C. M. PRITCHETT, B. S. M. E.	Cartersville	Georgia	Civil Eng.

A topographical map of the college campus.

MEMBERS OF GRADUATING CLASS ENTITLED TO SPECIAL MENTION.

DANIEL ALLEN, Agriculture, Horticulture, Chemistry.

GEORGE STRONACH FRAPS, Chemistry, Agriculture, Horticulture, English, History, Mathematics, Physics.

WILLIAM COLBERT JACKSON, Agriculture, Horticulture.

ROBERT GRAHAM MEWBORNE, Chemistry, Agriculture, Horticulture, English, Physics.

LEVI ROMULUS WHITTED, Engineering, Mathematics, Physics.

HONOR ROLL 1895–'96.

SENIOR CLASS.

Name.	*Post Office.*	*County.*
GEORGE STRONACH FRAPS	Raleigh	Wake.
ROBERT GRAHAM MEWBORNE	Kinston	Lenoir.
DANIEL ALLEN	Raleigh	Wake.
WILLIAM COLBERT JACKSON	Winterville	Pitt.

JUNIOR CLASS.

SIDNEY GUSTAVUS KENNEDY	Coahoma	Lenoir.

SOPHOMORE CLASS.

HUGH MCCOLLUM CURRAN	Westboro	Mass.
NUMA REID STANSEL	Allenton	Robeson.

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*With first distinction in course.
†With second distinction in course.

FRESHMAN CLASS.

CARROLL LAMB MANN,	Engelhard,	Hyde.

ORGANIZATION AND AIMS OF THE COLLEGE.

This College was founded under Act of the General Assembly of March, 1887, and was first opened for students October 2, 1889. Since that time its growth, both in number of its faculty and in number of its students, has been steady, and its work has been thorough and devoted entirely to technical education.

The establishment of a technical college in this State was due to the growth of the conviction that educated men are necessary—not only for the furtherance of the purely intellectual phases of a State's life, but that they are equally necessary for the development of the material resources of a State. It was felt that any State as rich in agriculture and mechanical resources as North Carolina is could not longer afford to fail to train men competent to get the best return from varied soils, or to direct the mechanical industries necessary to use up soil or mineral products. It was believed that the increasing sharpness of competition demanded a more intelligent body of truckers and farmers and better methods of farming.

It was also believed that it was poor economy in a State to have to send from without its borders for skilled artisans, for architects, for builders, for superintendents of machinery, for agricultural, analytical and industrial chemists, for civil, for mechanical, for electrical engineers, when it could educate its own sons for these useful and remunerative employments.

The mission of the College then is, so far as it may be able, to supply to the State these men—men so prepared that they may become leaders in the industrial and scientific life of the Commonwealth. The agricultural department will graduate men who have made a careful study of agricultural and horticultural methods, of soils, of plant food and growth, of fertilizers, of dairying and stock-raising, of drainage, of vineyard and orchard culture—in short, the department will try to send out, not agricultural theorists nor so-called "book-farmers," but young men who have, by practice in best methods and with best machinery and by study under experienced teachers, attempted to prepare themselves for intelligent and successful farming.

The mechanical, electrical and engineering departments will endeavor to give students a general knowledge of mechanism, of building, of bridge-building, of designing, of dynamos and dynamo running—in fact, of all the work expected of the civil and mechanical graduates of first-class technical institutions.

The College, however, does not intend to make mere machines of its matriculates, but its aim is to make educated men at the same time that it makes educated specialists. To this end general courses of study, similar to those taken in other Colleges, complement the technical work. These include mathematics, book-keeping, history, physics, chemistry, botany, logic, English language and literature, and all students are required to take these studies.

INCOME.

While the State makes the College an annual appropriation, its main support is derived from the Treasury of the United States in the shape of funds arising from the sale of public lands, thus inflicting no burden of taxation on any citizen. These Acts were passed July 2, 1862, and August 30, 1890, and require the funds granted by them to each State to be applied to the "endowment, support and maintenance of at least one College, where the leading object shall be, without excluding other scientific and classic studies, *and including military tactics*, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

COURSES OF INSTRUCTION.

The three general courses of study offered in this institution are in Agriculture, in Engineering and in Science.

In the Freshman year, the work of all students in these courses is the same, and consists of Mathematics, English History, Physics, Chemistry, Physiology, Botany and Agriculture in the class-room, and practice work in the field, green-house, carpenter shop, drawing-room, and physical laboratory. At the beginning of the Sophomore year the courses begin to specialize, and the student selects the one best fitted to his needs. With each of the higher classes, more time is given to the technical studies of the course.

THE COURSE IN AGRICULTURE.

The technical work of this course includes work in the departments of Agriculture, Horticulture and Chemistry.

Students can make their graduating thesis in any one of the three departments.

Inasmuch as this is not a manual labor training school, we do not propose to educate a young man to be *simply* a farm laborer, but try to give him, in addition to his practical work, a higher training that will fit him for a life of more extended usefulness.

Of course they are imbued with the idea that the man, after all, dignifies the labor, and that the honor of doing anything consists in doing it well.

The manual labor required is termed *practice work*, and is given in connection with the class-room work. In the lecture-room they learn the *why*, and in the field they learn the *how*.

It is the endeavor at all times to teach the students to use their brains as well as their hands, and that unless the muscle is directed by an educated brain it cannot accomplish the greatest good possible.

THE COURSE IN ENGINEERING.

The aim of this course is to equip the student with such training in pure and applied mathematics as is necessary to enable him to deal with engineering problems from the most favorable standpoint, and also to make of him a good draughtsman and mechanic. It attempts by instruction, both theoretical and practical, to familiarize him with the best engineering and shop practice The more strictly professional work begins with the second year, and is continued throughout the course.

The technical work is included in the departments of Mechanical and Civil Engineering, Physics and Industrial Chemistry, in any of which the student may take his thesis for graduation.

An examination of the schedule of topics, at the end of the Catalogue, will give a clear idea of the subjects taught and the methods employed.

THE COURSE IN SCIENCE.

The work of this course, outside the general studies which are required, is largely elective. The subjects are included under the departments of Entomology, Zoölogy, Botany, Agricultural and Analytical Chemistry, Physics, Electrical Engineering, Applied Mathematics, etc., and the course is intended for those wishing to become specialists in any of these departments. The thesis is to be made in the department in which the student elects most of his studies. The full time given to practice work in the other courses is required in this.

POST-GRADUATE COURSES.

Post-graduate courses have been established, leading to the degrees of Master of Science (M. S.), Mechanical Engineer (M. E.), and Civil Engineer (C. E.)

Candidates for the Master's degree may take their major subject in the departments of Agriculture, Horticulture, Chemistry or Physics. Minor courses are offered in Agricultural Analysis, Organic Synthesis, Theoretical Chemistry, Vertebrate Zoölogy, Veterniary Science, Cryptoganic Botany, Invertebrate Zoölogy, and Electrical Engineering, two of which must be taken.

For the degrees of M. E. and C. E., the courses are prescribed, and further information will be found under these departments and at the end of the Catalogue.

A thesis embodying the results of some original investigation must be submitted and accepted before the final examinations are taken.

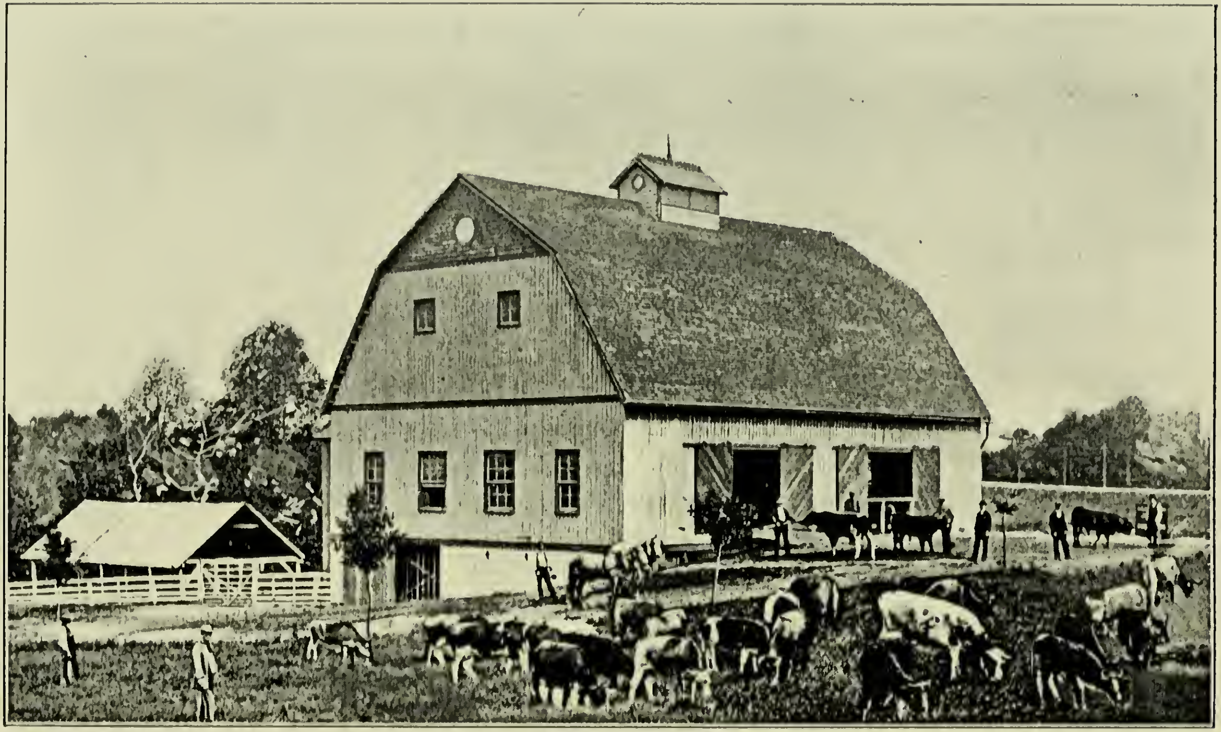
The studies will be carefully adapted to the expansion and development of the special lines of work selected by graduate students for a professional calling.

IRREGULAR WORK.

Students, otherwise qualified, may be allowed to elect certain studies from the regular courses already provided in the College, if no inconvenience result to the members of the regular classes.

SUB-FRESHMAN CLASS.

A Sub-Freshman Class has been organized, to give special preparation to such young men as are unable to enter the Freshman Class, and who nevertheless desire a technical education. No county will be allowed to have more representatives in this class than it has in the House of Representatives of the General Assembly.



COLLEGE BARN.

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

PROF. IRBY.

ASST. PROF. EMERY. MR. SKINNER.

In this department we try to qualify the student so that, when he returns home, he will be capable of managing his own farm, or acting as superintendent, dairyman or stockman for some one else, in addition to being able to perform in person the various kinds of work on a farm. We teach that it is of prime importance to know the reason for everything that is done, and that every *effect* has a *cause.*

COURSE OF STUDY.

FRESHMAN YEAR.

Fall Term—Three months in Hutchinson's Physiology.

Winter Term—Physiology continued and lectures in Hygiene and Comparative Anatomy.

These subjects are amplified by charts and practical illustrations.

Spring Term—Three months in Gulley's "First Lessons in Agriculture."

SOPHOMORE YEAR.

Fall Term—Lectures on Hygiene of the Farm, Drainage, Description and Use of Farm Implements, Cultivation and Harvesting of Farm Crops.

Winter Term—Breeds of Live Stock, including Horses, Cattle, Sheep and Swine.

Spring Term—Tile-Drainage, course of lectures on Preparation of Soils and Cultivation and Harvesting of Crops.

Practice work the entire year.

JUNIOR YEAR.

Fall Term—Dairying, which includes lectures on Selection of Dairy Herds, Development of Cows, Calculation of Feed Rations, Milking, Ripening of Cream, Use of Separator, Churning, etc., Keeping Record and Test of Cattle, Calculation of Milk Values from Tests, Location of Permanent Pastures, and Crops Best Suited to our State for Dairy Herds.

Winter Term—"Zoölogy, and Veterinary Science."

Spring Term—Lectures in Dairying, continued, and Bacteriology.

Practice work through the year is confined to care and handling of stock, and practical dairy work.

SENIOR YEAR.

Fall Term—Davis' "Meteorology."

Winter Term—French's "Tile Drainage," completed; and Mile's stock breeding, introduced.

Spring Term—Lectures on farm topics that are specially important are given, such as Farm Economy, Plan of Work, Growing Supplies at Home, Organizing a Farm. Arrangement of Buildings, Location of Fields, Care of Stock, Science as Applied in Feeding, Nutritive and Manurial Values of Feed Stuffs, Care and Use of Manures, Improvement of Exhausted Soils by Rotation of Crops and by Growing Renovating Crops.

The class has general practice work the entire year; this, with a graduating thesis for commencement, completes the regular four years' course.

Owing to the fact that many young men in the State have not the time or money to enable them to take the full course, and yet desire instruction, we encourage them to come and take a short course in Agriculture during the months of January and February. In this course they would not take any other College studies, unless desired.

A Post-Graduate course has been provided, and students taking the same are given special instruction in studies pertaining to Agriculture, in addition to practical work.

The *practice* work given during the four year's course is not paid for, as it is considered a part of the instruction; but work done voluntarily by the students is paid for, at the rate of seven cents per hour. They are encouraged to work whenever it can be given: and, as the work is done under the supervision of the Professor of Agriculture and the Superintendent of the Farm, it is instructive as well as remunerative. Thus many of them are enabled to pay a part of their expenses with their labor. Those who work well generally stand well in their classes.

The Experiment Station is near by, and as it is always open for inspection, is another source of practical information for the thoughtful student.

The equipment of the farm is as follows: Large basement barn, 50x72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain-bins, etc.; third story, by hay, which is elevated by a Ricker & Montgomery hay carrier. Just outside the barn are two seventy-ton circular silos. These are connected with a No. 18 Ohio Standard Feed and Ensilage Cutter. The power for cutting is supplied by an eight horse-power Skinner engine. The dairy building is large and commodious, having three rooms and a cellar, besides a large room above, used as an Agricultural Society hall, in which the Society meets every Saturday night. The dairy is supplied with a De Laval Separator, Babcock Tester, rectangular churn, butter worker, good, cheap heating apparatus, etc. The cellar is cemented, and has a cemented aqueduct on one side, through which flows water from a spring situated above the dairy. This is for ripening cream, and water supply.

The live stock consists of two Percheron mares, two mules, pure-bred Jerseys, Holsteins, Brown Swiss, and high-grades. Poland-China hogs are raised to utilize the waste from mess-hall and dairy.

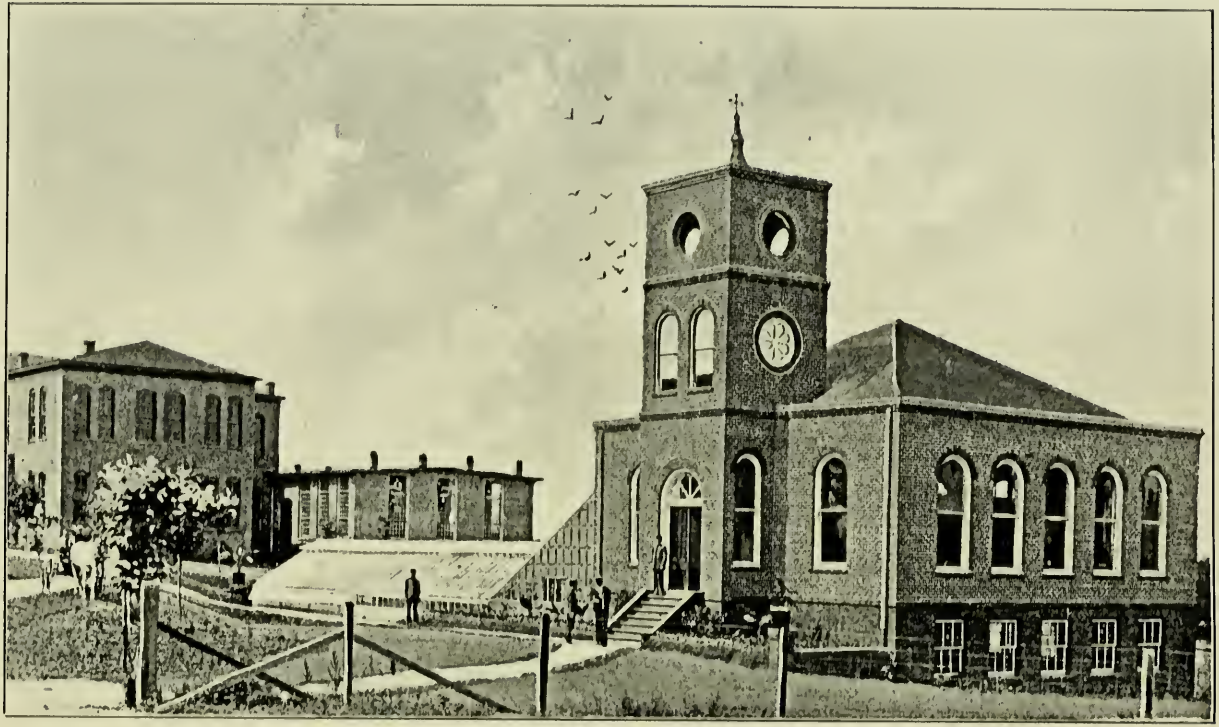
Field crops are corn, cotton, ensilage, peas, potatoes, hay, clover, oats, crimson and red clover, rye, soja beans, grasses, etc.

Instead of visionary theorists, we hope to turn out practical farmers, who will adopt the more improved methods of farming, thus aiding in advancing the cause in their several communities.

DEPARTMENT OF HORTICULTURE, ARBORICULTURE AND BOTANY.

PROFESSOR MASSEY.
MR. ....

A thorough knowledge of the structure and physiological functions of plants being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in Botany as a branch of Biology. Systematic Botany will also receive attention, and will be taught, not by the mere memorizing from a text book, but by a practical study of plants and the characteristics upon which classification is founded. Horticulture in all its branches will be treated as advanced work, to come in after the work in science is completed, so that in the Senior year there may be an opportunity for those who wish to make a specialty of Commercial Horticulture to prepare for the work of a professional Horticulturist, by practical study of green-house propagation, the forcing of vegetables, fruits and flowers under glass, landscape gardening, road making, the construction of horticultural buildings, and forestry.



HORTICULTURAL DEPARTMENT.

COURSE OF STUDY.

FRESHMAN YEAR.

Fall Term—Lectures on the elementary principles involved in soil culture. Soil physics.

Spring Term—Lectures on plant structure, with practical study of natural forms. Studies of the germinating plant, with a series of exercises planned to induce correct and close observation of the morphology of vegetation.

SOPHOMORE YEAR.

Fall Term—Structural Botany continued. Lectures on the application of principles to Pomology, with practice in budding and pruning.

Winter Term—Invertebrate Zoölogy and Entomology. Practice in pruning and root-grafting.

Spring Term—Collection of native plants and their systematic study, and collection and study of insects.

JUNIOR YEAR.

Fall Term—Lectures on Physiological Botany. Laboratory study of Vegetable Histology with the compound microscope.

Winter Term—Lectures on Foresty, timbers and forest products. Laboratory work continued.

Spring Term—Geology, with special reference to Palæobotany. Laboratory study of Cryptogams.

SENIOR YEAR.

Fall Term—Lectures on landscape gardening and the history of garden art. Practice in the propagation of plants and general greenhouse management.

Winter Term—Propagation of plants, lectures, and text book. Greenhouse practice.

Spring Term—Lectures on horticultural construction, and the commercial culture of vegetables, flowers, and fruits in the open ground and under glass. Plant breeding. Thesis.

In the Junior year each student will be furnished with a compound microscope, and must make a deposit at the beginning of each year of three dollars, for materials and reagents used, any unexpended balance of which will be refunded at the end of the year. Instruments furnished by the College, but loss and breakage must be made good by student.

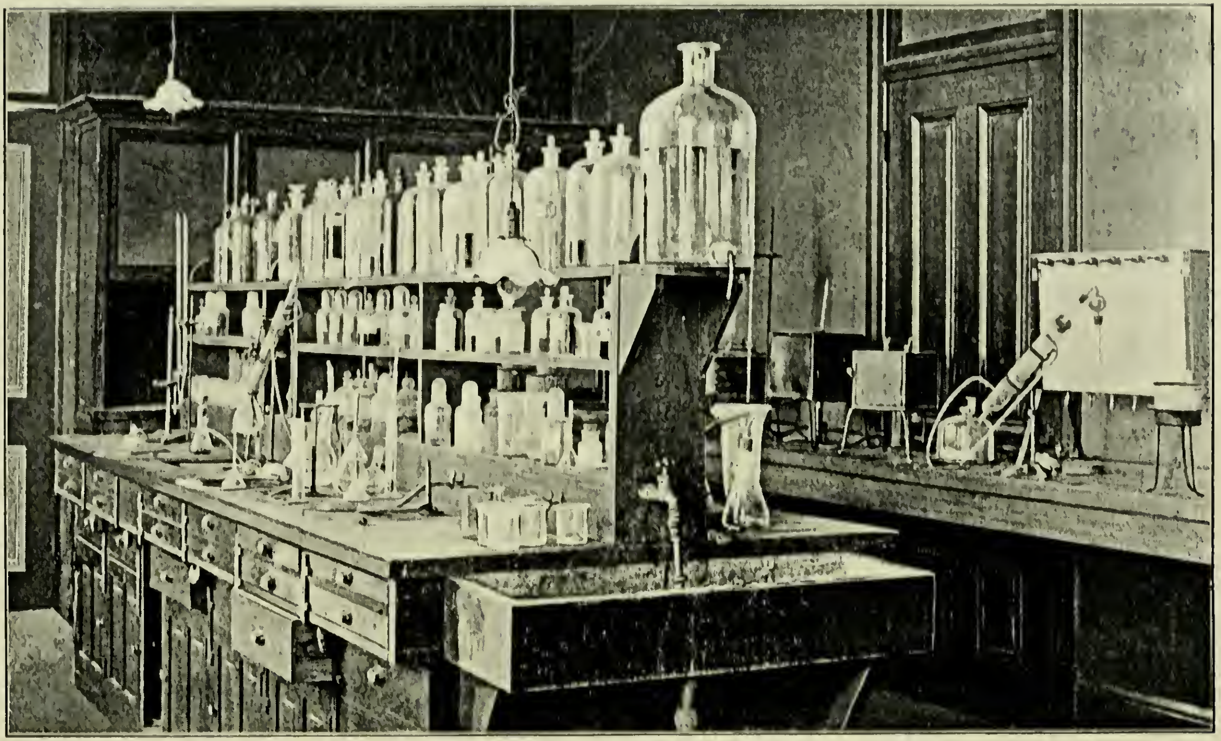
In the Freshman and Sophomore years, a deposit of fifty cents is required for use of hand magnifier, to be refunded when the glass is returned in good order. Students intending to make Horticulture their profession will be given special opportunities in the Senior year to become experts in greenhouse work and propagation. The College and Station Greenhouses and Exotic Grapery give particular advantages for this.

POST GRADUATE COURSE.

The major study for the Master's degree will be Practical Horticulture in all its branches, with a course of reading, under direction of Professor; Minor's, Invertebrate Biology and Cryptogamic Botany.

COURSE IN SCIENCE.

Students in the Scientific course will follow the exact line of work as those in the Agricultural course to the end of the Junior year. The Senior year in this course will be devoted to general Biology.



CHEMICAL LABORATORY.

DEPARTMENT OF CHEMISTRY.

PROFESSOR WITHERS. MR. BIZZELL.

The Chemical Laboratories are supplied with fume-closets, evaporating baths, drying chambers, blast lamps, and extra tile-covered tables. The tables are of yellow-heart pine, with oak tops. Each student is provided with one large and two small drawers, and one cupboard, for keeping apparatus. Each working space is provided with gas, distilled water, reagents, and a sink. The Laboratory of Quantitative Analysis will accommodate thirty-two students, sixteen of whom may work simultaneously; and the Laboratory of General Chemistry will accommodate fifty-six students, twenty-eight of whom may work simultaneously.

The Chemical Library contains a carefully selected list of standard reference books and chemical Journals, which the more advanced students are expected to use very freely.

While the ultimate aim of the work is towards the application of the science to Agriculture and Technology, and the preparation of the student for a career as a Chemist, yet the fact is fully appreciated that this end is most successfully accomplished when the work is based on a broad knowledge of the pure science.

The work of the Freshman and Sophomore years and Fall term of the Junior year is required of all students. The subsequent work depends on the course in which the student is enrolled.

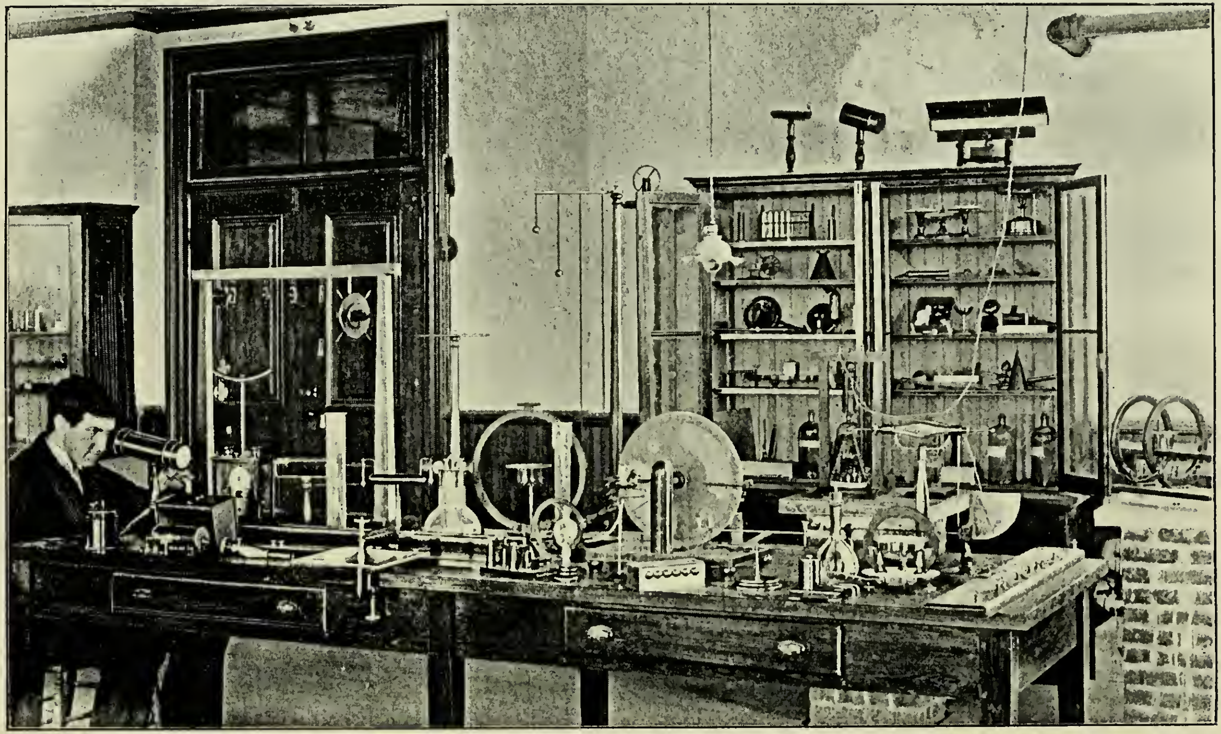
The Freshman class has for its work a brief introduction to General Chemistry, following the order of Roscoe's Primer.

The Sophomore class has Inorganic Chemistry (Remsen). The common elements and their principal compounds are studied, with some of the fundamental principles of the science. Due attention is given to Stoichiometry. The class room work consists of lectures, accompanied by full experiments, and the exhibition of specimens, to which reference is made. Daily recitations are held on the matter of the previous lecture. In the Laboratory, the student repeats for himself, under the eye of the instructor, the experiments performed in the lecture-room, and records the results and his explanation of the changes that have taken place. Remsen and Randall's Guide is followed. The latter part of the year is devoted to Qualitative Analysis (Caldwell).

The Junior class has Industrial Chemistry during the Fall Term. Attention is given to the more common industries, as sulphuric acid making, bleaching, dyeing, fertilizer making, paints, oil, gas, &c. Visits with the class are made to plants in the vicinity. The metallurgy of iron and other useful metals is considered.

The lectures in Agricultural Chemistry follow Mayer. Attention is given to a consideration of the atmosphere as a plant-feeder: the mineral and organic constituents of the plant, and their functions; the soil, and its relation to the plant; means of improving the soil; the preparation of manures and composts; green manuring; the composition of fodder, and the different means of curing and preserving; animal chemistry; stock feeding; chemistry of butter, of milk, etc.

Analytical Chemistry is continued by completing Qualitative Analysis, and an introductory course in Quantitative Analysis (Caldwell). At this time the student can adapt his laboratory work to his wishes, devoting his time to the agricultural, industrial or general branch of the subject. Attention is given to a discussion of Quantitative methods.



PHYSICAL LABORATORY.

In the Laboratory courses, the student is required to be able not only to make correct separations, but to know the reasons for the changes, reactions involved, etc.; and to test this knowledge, frequent recitations are held.

The Organic Chemistry follows Remsen's Text Book and Orndorff's Manual for Laboratory work. The Theoretical Chemistry follows Meyer, and the Historical Chemistry Von Meyer.

For Post-Graduate and other advanced students, courses of reading and laboratory work are assigned. The course concludes with some original investigation, which is to be the basis of a thesis for graduation.

The Berzelius Society meets fortnightly for the discussion of the chemical journals and other chemical work.

DEPARTMENT OF PHYSICS AND ELECTRICAL ENGINEERING.

PROFESSOR BARNES. MR. WHITTED.

The value of thorough instruction in Elementary Physics to a practical man, in the different walks of life, cannot be overestimated; and the knowledge of the varied applications of the subtle force of electricity is becoming a necessity, as it is more and more in every way coming into daily use. The importance of this department is fully recognized, and it is the intention of this College to make instruction and practical work in it as beneficial as possible to the student. To this end a commodious and well-lighted Laboratory has been equipped with apparatus to illustrate the principles of physical science, and for instruction and practice in physical and electrical experiments, measurements and testing. We have the most approved forms of electric batteries, a magneto electric machine, a dynamo which provides electric illumination of the College buildings, galvanometers and testing apparatus of considerable variety and the best types. With these the students are familiarized, by both instruction and practical adjustment and manipulation. Upon finishing their course, students should be as well able to measure the efficiency and output of an electric plant, as to weigh groceries or measure a wood-pile, and they have had sufficient instruction and experience to install, maintain and operate such a plant.

The College is illuminated with incandescent electric lights, run by a four-pole, direct-current dynamo. From the beginning, the whole work of installation, operation, maintenance and repair of the light plant has been done by students, as a part of their regular instruction.

In different courses, the work of this department extends through the Collegiate and Post-graudate classes, and is apportioned as follows:

In the Freshman class, all students are instructed in Elementary Physics. Recitations are illustrated by experiments, and followed by practical work in the Laboratory. The class is thus led to the acquirement of knowledge by study, by observation, and by doing the things taught. The text-books with this class are Gage's "Elements of Physics," and Gage's "Laboratory Manual." In all classes, the text-books are supplemented with lectures.

The Junior Class of the Engineering and Scientific Courses are instructed in electricity and magnetism during the second and third terms, with recitations, experiments, and practical work. The text-books used are Thompson's "Elementary Lessons in Electricity and Magnetism," and Day's "Electric Light Arithmetic" Included in the practical work is the operation of the electric-light plant.

The Senior class of the Mechanical Engineering and Scientific Courses are instructed in Electrical Engineering, including electrical testing in the Labratory, electro metallurgy, electric installation, and the designing, construction and operation of electric generators and motors. The text-books used are Thompson's "Elementary Lessons in Electricity and Magnetism," Brooker and Slingo's "Electrical Engineering" and Badt's "Dynamo Tender's Handbook," with lectures and practical work. The students of this class have charge of the dynamo, and each in turn, assisted by a Junior, operates the electric-light plant.

The Post-Graduates, of the Course in Mechanical Engineering continue the course in Electrical Engineering, including the calibrating of instruments, electrical testing, and the construction and repair of physical apparatus. They use as reference books, "Thompson's Dynamo Electric Machinery," Stewart and Gee's "Physics," Kempe's "Electrical Testing," Slingo's and Brooker's "Electrical Engineering," Crocker's "Electric Lighting."

Post-Graduates of the course in Civil Engineering have a regular course in Physical Laboratory practice, similar to that of the Mechanical Engineering Course but less extensive.

The department has a reference library of valuable books, to which the best publications will be added as they appear. Additions are being made to the apparatus as seems advisable. A considerable amount has been purchased during the present session.

DEPARTMENT OF MECHANICAL ENGINEERING.

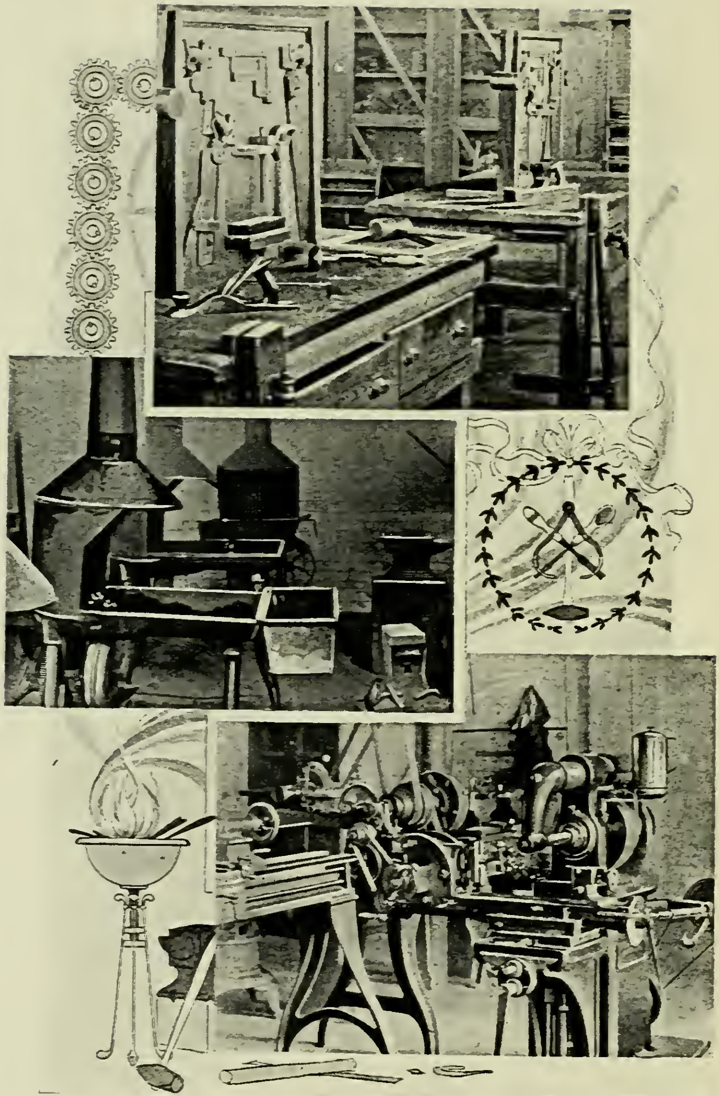
PROFESSOR CRAIGHILL,
MR PRITCHETT. MR. PARK
MR. CLARK.

The object of this department is to give such theoretical and practical instruction as will prepare the student for the work of either an engineer or mechanic. The time is about equally divided between recitation room work and manual training, the latter consisting of drawing and shop work.

A commodious building is used for instruction, on the first floor of which are a recitation room, engineering laboratory, machine shop, forge shop, wood-turning shop, and carpenter shop, all fully equipped. On the second floor are two drawing rooms, a blue-print room, recitation room and a library, in which various scientific and technical journals are kept on file.

COURSES OF INSTRUCTION.

Shopwork.—The instruction in this department is given with a two-fold object in view: First, to make the student a first-class mechanic; and second, to make him familiar with the nature of woods and metals and with the typical operations that have to be performed upon them to make them of commercial value. All work is made from blue-prints, so that the student may learn how to read and interpret drawings made by others. The work shops are provided with the more important hand and machine tools, and the student has an opportunity to become familiar with them and to learn what can be accomplished by their use. In the last half of the fourth year, the students make some machine or apparatus that will add to the equipment of the department.



CARPENTER SHOP. BLACKSMITH SHOP. MACHINE ROOM.

The shops are equipped as follows: The carpenter shop contains thirty-four carpenter's benches and all the necessary tools for each bench. The wood-turning shop contains ten 12-inch swing lathes, a saw and dado machine, a 20-inch planer, a mortising and boring machine, a 30-inch band saw, a large jig saw, a 6-inch sticker, a mitering machine, a grindstone, a steam glue pot, and six benches equipped with iron vises and all the tools necessary for pattern-making. Each lathe is fully equipped with turning tools. The forge shop contains twenty-three forges, each of which is provided with an anvil and forging tools, besides which there is a full equipment of tools for general use in the shop. The machine shop contains two engine lathes, a universal milling machine with spiral and gear-cutting attachments, a planer, an upright drill, an emery wheel, and six vise benches arranged for instruction in vise work, and a fully equipped tool room. The power for the shops is furnished by a 25-horsepower Woodbury engine. When the shops are running, one of the students has charge of the engine and another of the boilers.

Drawing.—The object of the course in drawing is to enable the student to express his ideas clearly on paper. With this in view, he is first taught to use drawing instruments; next, to make working drawings of objects that exist, and then to put his own designs on paper in such a way that they will be intelligible to others. This course goes hand in hand with the theoretical and practical part of the instruction in engineering. In the lecture-room, the student is taught to shape his ideas into practical forms, in the drawing room, to put them on paper, and in the shops, to make them into material forms.

The first term of the first year is devoted to freehand sketching, and the remainder to practice in the use of drawing instruments and short course of elementary perspective.

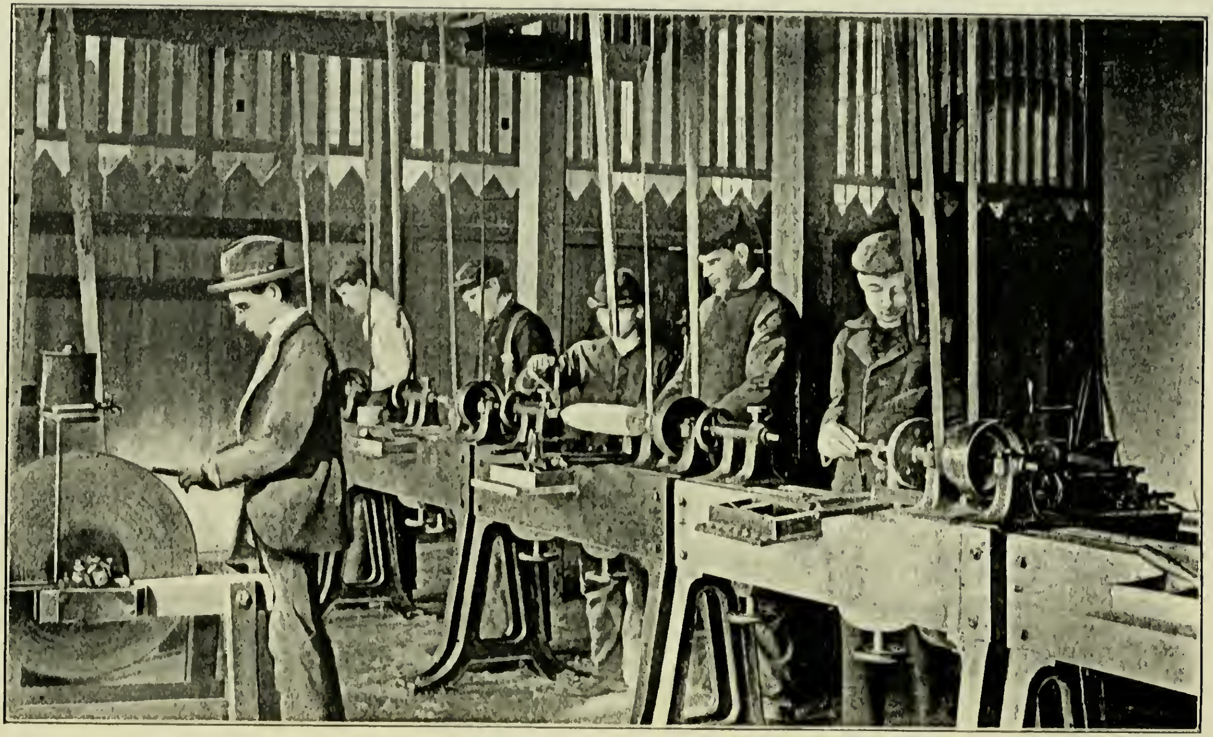
The instruction in the second year consists of a course of orthographic projections, and making working drawings of a casting or of some simple form of machine. In the third year, the work consists of the solution of various problems of mechanism, such as gearing, valves for the steam engine, and the like, and making a complete set of working drawings of some machine. In the fourth year, the drawing is entirely design. During the first term, the time is devoted to cam work, belting, and mechanical problems; the rest of the year, to the design of an engine, a boiler, a fly-wheel, a shaft coupling, or, some other problem that will illustrate the main principles of design. Each student is taught the blue-print process.

Steam.—This course includes a study of the properties of steam, the steam-engine, pumps, valve gears, indicator cards, boilers and chimneys, with a view to giving thorough instruction in the best modern practice in steam engineering.

Engineering Laboratory.—The objects to be accomplished in the Laboratory are as follows: First, to give the student practice in such experimental work as an engineer in the pursuit of his profession may be called upon to perform—such as valve-setting, engine and boiler testing, or measuring the flow of water; and second, to afford some practice in original research on engineering subjects.

The equipment of the Laboratory consists of a two-horse power engine, a ten-horse power engine (both of which were built by the students), a hot-air pumping engine, a machine for testing belt friction, calorimeter, apparatus for making analyses of flue gases, a hydraulic ram, a small water-motor, a Worthington water-meter, friction brakes, weirs, and slide rules, an indicator, planimeter, thermometers, tanks, and scales for making tests.

In addition to the Laboratory, there is a boiler-house



LATHE ROOM.

equipped with three thirty-horse power boilers, several pumps, a Worthington receiver, a Sturtevant blower, and a jet condenser, all of which are available for experimental purposes.

Mechanism.—The student is taught the principles of the ordinary mechanisms met with in practice. He learns the methods of transmitting motion from one point to another, how to find the value of trains of wheels, and to arrange pulleys and design cam work.

Mechanism of Cotton Machinery.—The principles and object of the various machines used in the manufacture of cotton are explained, with suggestions as to the methods of running them to obtain the best results.

Mechanics.—During the first term of the third year, the general principles of Mechanics are studied. Throughout the fourth year, the principles already learned are applied to the calculation of the strength of materials, and the strength and stability of structures. Also, a study is made of such reliable tests as have been made to determine the strength of materials most commonly used in practice, with a view to becoming familiar with the proper constants to be used in engineering work.

Mill Engineering.—A study is made of the best modern mill practice, the cotton mill being taken as an example. The student learns to proportion and arrange the machines and buildings so that there shall be a minimum loss from stoppage, and the mill shall be well balanced. He learns to arrange and lay out the shafting, and to find the power necessary to drive the machinery. Visits are made to the mills and manufacturing establishments in the neighborhood to see machinery in operation.

*Heatin*j *and Ventilation.*—The object of this course is to teach the student to warm and ventilate buildings in the most approved manner. The principles of the different systems in use are fully explained. The student makes calculations and drawings for heating and ventilating some building, which is taken for an example. A study is made of the extensive system in operation at the College.

POST-GRADUATE WORK IN MECHANICAL ENGINEERING.

Facilities are offered for one or two years of post-graduate work in this department, leading to the degree of Mechanical Engineer.

DEPARTMENT OF CIVIL ENGINEERING.

Professor RIDDICK.

Instruction is given in the following subjects:

SOPHOMORE CLASS.

Architecture and Building.—This includes lectures on buildings and building materials, as well as Architectural Drawing. The student is taught to draw plans, write specifications, and make out bills of materials, and also the methods of constructing houses and the uses of the various materials of construction. He studies the subject from the standpoints of both architect and contractor.

JUNIOR CLASS.

Graphic Statics.—This consists of the graphical determination of "bending moment," "vertical shears," and the stresses in frame structures and machine parts.

Surveying.—The student is taught land and topographical surveying and the rudiments of railroad and municipal engineering, including lectures on road-making. The Winter Term is devoted to the study of the theory of surveying and engineering, and the Spring Term to field work, each student being required to work up and plat his field notes. The College owns a transit, Y-level, compass, tapes, chains, rods, etc.

Text-book: Wentworth's Surveying.

SENIOR CLASS.

Roofs and Bridges.—This consists in the application of analytical methods to the determination of stresses in roof and bridge trusses and other frame structures. It includes, also, the design and construction of arches, domes, retaining walls, and masonry dams.

Text-book: Lanza's Applied Mechanics.

Hydraulics.—The students are taught the methods of measuring the flow of streams; the laws governing the flow of water in pipes and conduits; the determination of water power in streams, and the testing of hydraulic motors.

Text-book: Merriman's Hydraulics.

FIFTH, OR GRADUATE YEAR.

This department offers facilities for one year of post-graduate work in civil engineering, leading to the degree of C. E. The work of this course is given in table of studies on last pages of this book.

DEPARTMENT OF MATHEMATICS.

PROFESSOR RIDDICK.

ADJUNCT—PROFESSOR YATES.

It will be the aim of this department to give the young men a thorough and practical knowledge of Pure Mathematics. All students are required to do as much supplementary work as the time will permit, for no principle is well learned by a pupil and thoroughly fixed in his mind till he can use it.

The course in Mathematics begins in the Freshman year, and is completed by the students in the Mechanical Course at the close of the Winter Term of the Senior year. Agricultural students drop the study of Mathematics after having finished Trigonometry.

FRESHMAN CLASS.

During this year it is our purpose to complete Arithmetic and Algebra to higher equations. The young men are required to solve the problems by neat and intelligent methods, and are kept free from set rules and formulas.

To enter this class the student must have a thorough knowledge of Arithmetic through fractions.

Text-books: Milne's Arithmetic, Wells' Higher Algebra.

SOPHOMORE CLASS.

This class completes Algebra during the Fall Term. The remainder of the session is devoted to plane and solid Geometry, with numerous exercises for original solution.

Every effort is directed to lead students to pursue these studies without feeling that they are characterized by arbitrary laws and mysterious processes: in other words, to work by reason, and not by rules and memory.

During the latter part of the year the class has, in addition, two recitations a week in Trigonometry.

Text-books: Wentworth's Geometry, Wentworth's Trigonometry.

JUNIOR CLASS.

The first part of the year is spent in the completion of Trigonometry, with practical applications. The remainder of the session is devotod to Analytical Geometry.

Much exercise work will be done, since it is only by solving problems which require some degree of original thought that any real mastery of the study can be gained.

Text-book: Nichol's Analytical Geometry.

SENIOR CLASS.

This class will begin Calculus at the beginning of the session and complete the same by the end of the Winter Term.

Text-book: Taylor's Calculus.

ENGLISH DEPARTMENT.

PROFESSOR HILL.

It will be the endeavor of this department to give to each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and with ease, and be an intelligent and appreciative interpreter of its literature. In addition to the regular text-books, standard prose and poetic writers will be critically read and discussed through the whole course.

The department is gradually adding a reference library that will be at all times accessible to students.

The course in English begins in the Freshman year, and continues through the whole four years, and is required of both Agricultural and Mechanical students.

FRESHMAN CLASS.

Four recitations a Week.

The first part of the year is spent upon a review and drill on the forms and syntactical laws of the language. This work is made as practical as possible. The second half of the year is devoted to the fundamental principles of composition and their application. Constant exercises are required, but, in this year, the student is assisted in his accumulation of material for these exercises, so that his attention may be given almost entirely to correctness of expression.

Text-books: Hill's Foundations of Rhetoric; Buehler's Exercises. Critical Readings for this class. Thurber's Addison's Essays.

SOPHOMORE CLASS.

Three Recitations a Week.

The work for this year begins with the History and Development of the English Language. This will be followed by a course in the elements of Rhetoric. In this course in Rhetoric special attention will be paid to the analysis of themes and their subsequent elaboration, step by step. Much of this work will be done in the lecture room, and no pains will be spared in the attempt to develop the student's imaginative and constructive powers.

Text books: Lounsbury's English Language, or Hawthorne's Literature. Genung's Outlines of Rhetoric. Critical Readings for class room: Leach's DeQuincey, Gray Lyrics.

JUNIOR CLASS.

Three Times a Week.

The first part of this year will be spent upon Logic and Logical Praxis. Afterwards the class will take up Higher Rhetoric, Rhetoric as it has to do with Invention. In order to make this study of Invention more fruitful, an analysis of the methods of some of our best writers will be carried along with it.

Text-books: Jevon's Logic, Gregory's Practical Logic, Genung's Rhetoric and Rhetorical Analysis, Lectures. Critical readings for class-room: Two of Webster's Speeches, Milton Lyrics, Garnett's English Prose.

SENIOR CLASS.

Three Times a Week.

Literature, English and American, will occupy the year. Historical periods will first be studied, and then the literature of the periods. Some parts of the year's work will be done topically. The Elizabethan Drama is taken up critically. Parallel for class-room: Thayer's Select Plays will be used.

Text-books: Pancast's Introduction to English Literature, Hawthorne and Lemmon's American Literature, Lectures on Poetry, Garnett's and Thayer's Selections, Browne's Versification, Hudson's or Rolfe's editions of Shakespeare.

DEPARTMENT OF BOOKKEEPING.

ADJUNCT-PROFESSOR YATES.

All students in the Sophomore Class will be required to take single-entry bookkeeping during the Spring Term.

The work in the text-books will be supplemented by numerous original examples and sets for practice.

DEPARTMENT OF HISTORY.

PRESIDENT HOLLADAY.

In this course students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern. They are taught, as far as possible, to note the progress of civilization, the development of constitutions and tendency of political systems rather to memorize isolated facts—in other words, the chief effort is directed towards teaching students how to read and to think, rather than to recite.

Instructions wlll be partly by lectures and partly by standard text-books, such as Moore, Stephens, Swinton, Myers and Green.

Students will also be encouraged and guided in outside readings on special subjects, for which the College Library will afford ample conveniences.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

Captain JOHN C. GRESHAM, Seventh U. S. Cavalry.

The instruction is in Infantry Drill Regulations, close and extended order, including the Schools of the Soldier, Company and Battalion, and embraces also recitations or lectures on Military Science.

The uniform of cadet gray costs about seventeen dollars.

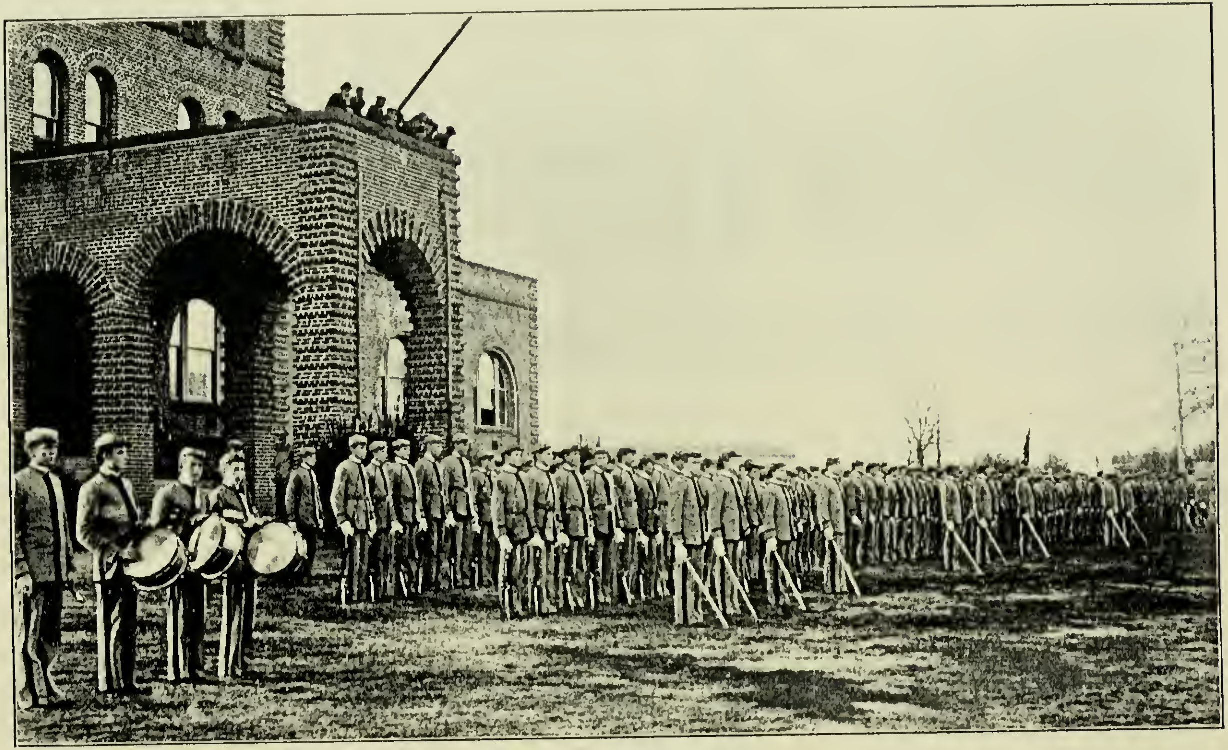
The Battalion is organized in three companies:

CADET OFFICERS.

Major: B. J. Wootten.
Adjutant: R. H. Merritt.
Sergeant-Major: D. O. Uzzle.
Color-Sergeant: F. C. Doyle.
Color Corporal: F. M. Foy.
Color Corporal: C. Whitaker.
Principal Musician: A. T. Smith.

Officers.	Company A.	Company B.	Company C.
Captain	J. L. Knight.	C. B. Kendall.	C. D. Harris.
1st Lieut	S. G. Kennedy.	Lea Watson.	J. W. Carroll.
2d Lieut	N. L. Gibbon.	W. H. Sanders.	H. W. Primrose.
1st Sergeant	G. F. Syme.	N. R. Stansel.	C. B Adams.
2d Sergeant	A. R. Kennedy.	P. Sugishita.	M. Parker.
3d Sergeant	B. C. Fennell.	H. M. Curran.	D F. Asbury.
4th Sergeant	G. C. Uzzle.	M. Squires.	M. W. Boushall.
5th Sergeant	E. G. Smith.	E. H. Maddrey.	D. G. Robeson.
1st Corporal	F. B. Kuykendal.	C. S. Siewers.	F. H. Lemly.
2d Corporal	W. A Stevenson.	J. Fennell.	W. C. Sugg.
3d Corporal	C. L. Mann.	R. B. Seyks.	S. M. Wetmore.
4th Corporal	H. B. Young.	I. B. Tucker.	F. C. Lambe.

Retired with full rank on account of consolidation of companies:
Captain W. A. G. Clark.
First Lieutenant A. H. Oliver.
Second Lieutenant J. S. Buffaloe.



MILITARY DEPARTMENT.

LOCATION.

The original College site and farm, in all comprising a tract of about sixty-two acres, were donated by Mr. R. S. Pullen, of Raleigh, to the State of North Carolina for the purpose of industrial education. The gift is a noble one, and the name of the donor will be linked with the history of the College.

Situate on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, at a distance of three-fourths of a mile from the corporate limits, the site is, in all respects, a suitable one. The ground slopes from the buildings in every direction, giving almost perfect drainage, as well as handsome views of the College buildings from every direction.

A healthy location is one of the absolutely essential prerequisites for such an institution, and the Trustees feel assured that this is secured in the site given by Mr. Pullen.

Indeed, it is a matter of history that Raleigh, N. C., and Aiken, S. C., were chosen by a commission of eminent medical experts during the late war as perhaps the most suitable places for sanitariums in the South.

The farm has been carefully cultivated for about six years, and the land is being brought up mainly by judicious vegetable manuring. Eighteen acres adjoining the College on the west have been purchased, in addition to the original tract, and still more land would be desirable, but cannot at present be purchased, owing to the pressing need of more buildings.

BUILDINGS.

MAIN BUILDING.

This is of brick, with brownstone trimmings, and is 170 by 60 feet; part four stories in height, and the remainder two.

The lower floors contain the offices of the President, the Secretary of the Faculty, and the Bursar; the library; several recitation rooms; chemical and physical laboratories; the chapel, and the armory.

The upper stories are occupied by students.

In this, as in the other buildings, every precaution has been taken to secure good sanitation. The rooms are all well lighted, well ventilated and conveniently arranged.

ENGINEERING BUILDING.

This is a plain, substantial, two-story brick building, with large annex. It contains the laboratories, drawing-rooms and recitation-rooms, and shops of the department.

BOILER-HOUSE.

This is a single-story brick building, containing boilers, fire-pump, and the machinery connected with the steam-heating plant.

PRIMROSE HALL AND PLANT HOUSES.

The facilities for instruction in Botany and general Horticulture have been greatly increased by the erection, during the Summer of 1896, of a separate building for the use of the Professor of Horticulture, Arboriculture and Botany, and a fine range of glass structures attached thereto. The Primrose Hall was named in honor of Mr. W. S. Primrose, the first President of the Board of Trustees. It consists of a brick building 42x42 and two stories in height. The lower or basement floor is occupied by the Horticultural Laboratory and boiler-room. All the indoor work in the Horticultural Department is done here, such as potting plants and root grafting for the nursery in the winter. Here are also the heating apparatus for the glass structures and the Hall above. On the second floor is the Lecture-room and the Botanical Laboratory, with a small office for the Professor. The plant houses are five in number, and are immediately accessible from the Lecture-room and Laboratories, so that material for instruction can be had at any time. The five greenhouses open into each other and are separated by glass partitions, that different night temperatures can be maintained to suit the various purposes to which the houses are devoted. Here is kept a general collection of plants for botanical study and for practice in Floriculture, and in two of the houses winter forcing of vegetables and fruits is carried on, in order that the students may have practice in a line of work that is rapidly assuming commercial importance in the State. The entire building and greenhouses are heated by hot water in the most complete manner.

DAIRY AND BARN.

These are frame buildings, of modern design, and carefully planned for the purposes to which they are devoted. The barn is 50 by 72 feet, and three stories high, and affords shelter for the herds of stock ; the dairy is 20 by 40 feet, and two stories high—the upper story being used as the Agricultural Society hall.

WATAUGA HALL.

This is a handsome three-story brick building, named in honor of the Watauga Club, which was largely instrumental in securing the establishment of the College. The first floor contains a kitchen, a dining-room, and a cloak-room, while in the upper stories are twenty-six rooms used as dormitories.

DORMITORIES.

The College has four brick buildings, used exclusively as dormitories, containing a total of fifty-four rooms.

WATER SUPPLY.

Appreciating the necessity of a pure and plentiful supply of water, the College had six driven wells put in. The depth of these wells is from 55 to 80 feet. The water is pumped for distribution from these wells into three large tanks, and also into one fire reservoir.

LIGHT AND HEAT.

These buildings are lighted by electricity. The electric plant is the property of the College and is operated by the Engineering students. In this way these students learn the practical care and conduct of an Electric plant. All the buildings except the Engineering are heated by steam.

All the buildings are heated with steam, and are lighted with incandescent Electric lamps.

DIVISION OF SESSION.

The session is divided into three terms, designated as the Fall, the Winter and the Spring Term.

Although students will be admitted at any time, the best time to enter College is at the beginning of the scholastic year, with the Fall Term. Students desiring to enter as late as the Spring Term will find it impossible to pass the necessary examination, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand an examination which will show ample preparation for the class he may wish to enter.

REPORTS.

Reports of deportment and absence from College duties are sent to parents or guardians at the end of every month, and attention is called to any lack of diligence on the part of the student.

Reports of scholarship and deportment are likewise sent at the end of each term. In the grading 100 is the maximum, 90 or over is considered excellent, 80 or over creditable; 60 is the lowest mark that will entitle the student to pass to a higher class. In calculating the average for the term the subjects count equally.

HONORS.

The Punctuality Roll contains the names of students who have not been absent from a single exercise during the year.

The Honor Roll contains the names of those whose average in all studies for the year is 90 or more.

Special Mention is made at graduation of any student whose average in any study during his Junior and Senior years was above 90.

First Distinction is given in each course to the member of the graduating class who makes the highest average for the course—provided such average for the whole course is above 90.

Students attaining first distinction in the courses are entitled to deliver commencement orations.

DEGREES.

One Baccalaureate degree is conferred. Upon those who have successfully passed all the examinations in the various studies of the course in Agriculture, the course in Science, or the course in Engineering, the degree of Bachelor of Science is conferred.

To graduates in the course in Agriculture or in Science who have successfully passed examinations, after a supplementary year's work under direction of the Faculty, the degree of Master of Science is given. Similarly, the degree of Mechanical Engineer, for work in Mechanical Engineering, and Civil Engineer for work in Civil Engineering. The fee for the Baccalaureate Diploma is $3, and for M. E., C. E or M. S., $5.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The various Christian denominations are well represented in the student body, and all unite in a Young Men's Christian Association, which meets with regularity and exerts a beneficial influence throughout the College.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

TECHNICAL SOCIETY.

The Agricultural Society, Mechanical Society, and Berzelius (Chemical) Society have been organized by the students taking most interest in these special departments of study. Their work consists in reviews of the various technical journals, and in original papers.

ALUMNI ASSOCIATION.

This Association of the College graduates meets annually, during Commencement week, and aids in refreshing the pleasant memories of College days, as well as keeping its members in active touch with their *Alma Mater.*

President, Chas. Pearson, '94, Raleigh, N. C.
Vice-President, David Clark, '95, Raleigh, N. C.
Sec.-Treas., W. H. Harriss, '95, Charlotte, N. C.

LIBRARY.

The Library now contains about twenty-three hundred volumes. Additions are being made to the number every year, and the way now seems clear for rapidly increasing the numbers.

There are reference libraries for the use of students placed in the Departments of Agriculture, Horticulture, Chemistry, Physics, English, Mechanical and Civil Engineering.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour. As this labor has to be apportioned among many, no first year student can hope to make more than two or three dollars a month in this way.

PRIZES.

A prize of ten dollars is given to the Freshman student who, in addition to his class-work, earns the largest amount of money by his skill in agricultural labor outside, and a second prize of five dollars is given to the student who, in addition to his class work, earns the next largest amount of money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities proportional demerit marks will be noted on the report sent to parents or guardians monthly and at the end of each term. It is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to strict account for them, since if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark.

Students who persist in grave misconduct will not be permitted to remain in the College. The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave. There is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS.

Applicants for the Freshman Class must be at least fifteen years old, and must, if required, furnish satisfactory evidence of good moral character. They must pass satisfactory examinations on the following subjects: 1st. Arithmetic through common and decimal fractions. The examination will cover the ground laid down in some such standard Arithmetic as Wentworth or Milne. 2nd. In English applicants will be examined on the elements of the language—the examination including the matter treated in such books as Reed and Kellogg's First Lessons, or Harvey's Grammar. 3rd. In Geography the applicant is expected to be familiar with work of the grade of Maury's

Manual. 4th. In History, the examination will be confined to the main events in American history.

COUNTY AND PAY STUDENTS.

The law provides for two kinds of students—county and pay. Each county is entitled to as many county students as it has members in the House of Representatives. This class of students is entitled to free tuition and lodging in College dormitories. There is no limit to the number of pay students, and these students will be allowed to lodge in College buildings. The expenses of a pay student are only $30 a year more than those of a county student. Young men desiring to enter as county students must apply to the Board of County Commissioners, who alone have authority to make such appointments, as the College authorities cannot make them.

ADMISSION.

The County Supervisors of Education are usually willing to conduct the examination of all applicants for admission. This examination will be held at the county-seats on the second Thursdays of July and September, or at such times as will suit the examiner.

All young men, however, wishing to enter, can be examined at the College on the day before its opening, if they did not pass the examination at the county-seats. These will be held at the following hours: Mathematics, 9 A. M.; English, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M. Examinations for conditioned students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report at once to the President of the College, for a permit for examination or for registration.

Students who have passed the examinations for admission, or for advancement to a higher class, will report to the Secretary of the Faculty for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sunday morning, students must attend the church service in Raleigh, each student being allowed to select the church.

Each occupant of a dormitory is expected to keep his room in good order and ready for inspection at any time.

CLOTHING, ETC.

Each student is required to have one uniform suit.

Each student living in the College must bring with him a change of sheets and pillow-cases, four towels and two counterpanes, plainly marked.

TUITION.

Tuition is $20 per scholastic year. County appointees are entitled to tuition and lodging *free of cost.* Post-graduates are excused from tuition fees.

BOARD AND LODGING.

Board and lodging are furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month, and lodging as below stated.

Board is payable monthly, in advance, and where any student fails to pay promptly on the 1st, notice will be sent to his parent or guardian; and in case payment is not made by the 10th, the student will be dropped from College.

COLLEGE CHARGES PER SESSION.

I. COUNTY STUDENTS.

1.	Tuition free.	
2.	Board, at $8 per month, per session of 9½ months	$ 76 00
3.	Fuel and lights for entire session	12 50
4.	Medical fee and medicines, payable semi-annually in advance	4 00
	Total	$ 92 50

II. FOR OTHER STUDENTS.

1.	Tuition, per session	$ 20 00
2.	Board, at $8 per month, 9½ months	76 00
3.	Fuel, lights ~~and medical attendance~~ for entire session	12 50
4.	Medical fee and medicines, payable semi-annually in advance	4 00
5.	For lodding in College building, room, furniture, bedding, etc	10 00
	Total	$122 50

Each student must also deposit, on entering, a contingent fee of $1, of which all not needed to pay for unnecessary damage to property will be returned.

Of these charges, $15.25 must be paid upon entering College. The uniform suit costs $16.85, and must be paid for when finished. The making usually takes about one month. The remainder is payable *in monthly installments, in advance.*

Each student must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year.

All students must furnish their own books, stationery, and drawing instruments and materials.

TABLE OF STUDIES.

FRESHMAN CLASS—FOR ALL COURSES.

	Fall.	*Winter.*	*Spring.*
Agriculture and Physiology	2	2	2
Botany	2	..	1
Botanical Laboratory	..	..	2
Introductory Chemistry	..	2	..
Physics	3	2	2
Physical Laboratory	..	2	2
Algebra	6	5	5
English	4	4	4
History	1	1	1
Carpenter Shop	4	4	4
Freehand and Mechanical Drawing	3	3	3

COURSE IN AGRICULTURE.

SOPHOMORE CLASS.	*Fall.*	*Winter.*	*Spring.*
Agriculture	..	2	2
Agricultual Practice	2	2	4
Botany	2	2	..
Botanical Laboratory	3	4	4
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Geometry and Trigonometry	5	5	6
English	3	3	3
History	1	1	1
Architecture	3	..	..
Drawing	5	..	..
JUNIOR CLASS.			
Agriculture	3	3	3
Dairy Practice	4	4	..
Horticulture	2	3	2
Horticultural Practice	4	2	2
Agricultural Chemistry	3	3	3
Industrial Chemistry	2	..	..
Qualitative and Quantitative Analysis	6	6	6
Surveying	..	2	2
Field Practice in Surveying	..	..	9
English	3	3	3
History	1	1	1
SENIOR CLASS.			
Agriculture	5	5	5
[†]Agricultural Practice	2	2	2
Horticulture	4	4	4
[†]Horticultural Practice	4	4	4
[*]Organic and Theoretical Chemistry	3	3	3
Agricultural Chemical Analysis	8	8	8
English	3	3	3
History	1	1	1

[†] Agricultural Chemical Analysis may be substituted.

[*] Agricultural and Horticultural Practice may be substituted.

COURSE IN ENGINEERING.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Architecture	3	2	..
Mechanical and Architectural Drawing	5	5	5
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Geometry and Trigonometry	5	5	6
English	3	3	3
History	1	1	1
Shopw'k(Wood-turning & Pattern-making)	6	6	6

JUNIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Mechanic, and Graphic Statics	2	2	2
Drawing	5	5	5
Industrial Chemistry	2	..	..
Steam, Valve Gears, Boilers	4	2	..
Engineering Laboratory	..	..	1
Elements of Mechanism	..	1	..
Mechanism of Cotton Machinery	..	..	2
Electricity and Magnetism	..	2	2
Analytical Geometry	4	3	3
Surveying and Field Practice	..	2	11
English	3	3	3
History	1	1	1
Shopwork (Forging)	9	9	..

SENIOR CLASS.

	Fall.	*Winter.*	*Spring.*
Applied Mechanics and Engineering	2	5	2
Roofs and Bridges	3	..	..
Hydraulics	..	..	2
Mill Engineering	..	..	2
Drawing (Machine Design)	5	5	5
Heating and Ventilation	..	..	1
Engineering Laboratory	..	..	2
Electrical Engineering	1	1	1
Electrical Testing	2	2	2
Calculus	4	4	..
English	3	3	3
History	1	1	1
Shopw'k (Chipping, Filing & Machine W'k)	9	9	9

COURSE IN APPLIED SCIENCE.

SOPHOMORE CLASS.

	Fall.	*Winter.*	*Spring.*
Botany	2	2	....
Botanical Laboratory	3	4	4
General Chemistry	3	3	3
Chemical Laboratory	4	4	4
Mathematics	5	5	7
English	3	3	3
History	1	1	1
Architecture	3	..	..
Drawing	5	5	5

JUNIOR CLASS.

Elective	7	8	8
Mathematics	4	3	3
English	3	3	3
History	1	1	4
Elective practice work	15	15	15

SENIOR CLASS.

Elective	11	11	11
English	3	3	3
History	1	1	1
Elective practice work	15	15	15

POST-GRADUATE COURSE IN MECHANICAL ENGINEERING.

	Fall.	*Winter.*	*Spring.*
Steam Engineering	3	3	3
Heat	1	..	..
Physical Laboratory	4	4	4
Boilers	..	..	1
Shop Visits	1	1	1
Hydraulics and Hydraulic Motors	1	1	1
Machine Design	4	4	4
Engineering Laboratory	2	2	2
Advanced Applied Mechanics	3	3	3
Mill Engineering	2	2	2
Least Squares	2	..	..
Differential Equations	..	1	..
Precision of Measurements	..	..	1
English	2	2	2
Thesis	5	5	5

POST-GRADUATE COURSE IN CIVIL ENGINEERING.

	Fall.	*Winter.*	*Spring.*
Mechanics	4	..	..
Mechanics of Machinery	..	2	2
Topographical Surveying	..	2	4
Construction	..	4	4
R. R. Surveying	4	..	..
Sanitary Engineering	3	3	3
Astronomy	3	3	..
Bridge Design	6	6	..
Hydraulics	..	..	4
English	2	2	2
Mill Engineering	2	2	2
Physical Laboratory	1	1	1
Least Squares	2	..	..
Applied Mechanics	3	3	..
Geodetic Surveying	.	..	3
Road Making	..	..	3
Thesis	..	5	5

REGISTER OF ALUMNI.

CLASS OF 1893.

Name. *Degree.* *Address.*

ROBERT WILSON ALLEN,..................B. E................Preston, Md.
Prof. of Mathematics, Preston Normal School.

SAMUEL ERSON ASBURY,..................B. S................Raleigh, N. C.
Assistant Chemist N. C. Agr. Experiment Station.

HENRY EMIL BONITZ,........................B. E................Wilmington, N. C.
Architect and Contractor and Adjuster of Fire Losses. Trustee N. C. College of Agriculture and Mechanic Arts.

FRANK FULLER FLOYD,......................B. E................Knoxville, Tenn.
Supt. Linotype Machines for the Knoxville *Journal.*

CHARLES DUFFY FRANCKS,.............B. E................Raleigh, N. C.
Instructor in Math. and English, N. C. College of Agriculture and Mechanic Arts.

EDWARD MOORE GIBBON,..................B. E................Salem, N. C.
With the Salem Iron Works.

GEORGE PENDER GRAY,....................B. S................Silver Lake. Fla.
Farm Manager.

CHARLES BOLLING HOLLADAY,......B. E................Raleigh, N. C.
In Division Freight Office, Southern R. R.

WILLIAM McNEIL LYTCH,..................B. E................( )

WALTER JEROME MATHEWS,.........B. E................Goldsboro, N. C.
Engineer to the Eastern N. C. Asylum for the Insane. [N.C.

JAMES WILLIAM McKAY,....................B. E................Black Mountain,
Civil Engineer and County Surveyor.

FRANK THEOPHILUS MEACHAM,....B. S................Biltmore, N. C.
Supt. of Stock at Biltmore Farm.

CARL DEWITT SELLARS,....................B. E. ....Altamaha, N. C.
Engineer for Altamaha Cotton Mills.

CHARLES EDGAR SEYMORE,.............B. S................Louisburg, N. C.
Farmer.

BUXTON WILLIAMS THORNE,............B. E. .... Miss.
Book-keeper.

WILLIAM HARRISON TURNER,........B. E................Salem, N. C.
With Wachovia Mills (F. & H. Fries).

CHARLES BURGESS WILLIAMS,........B. S................Baltimore, Md.
Student of Chemistry and Hopkins Scholar at Johns Hopkins University.

LOUIS THOMAS YARBROUGH,............B. E................Raleigh, N. C.
With Southern Bell Telephone Co.

SAMUEL MARVIN YOUNG,..................B. E................Raleigh, N. C.
With Julius Lewis Hardware Co.

CLASS OF 1894.

Name.	*Degree.*	*Address.*	
CHARLES EDWARD CORPENING	B. E.	Lenoir, N. C.	Farmer.
DAVID COX, JR.	B. E.	Hertford, N. C.	Architect and Engineer.
ROBT. DONNELL PATTERSON, JR.	B. S.	Raleigh, N. C.	Dairyman N. C. Agr. Experiment Station.
CHARLES PEARSON	B. E.	Raleigh, N. C.	Architect.
ZEBBIE GEORGE ROGERS	B. E.	Danville, Va.	Secretary and Treasurer.
JOHN HYER SANDERS	B. E.	Choccowinity, N.C.	Locomotive Engineer for Lumber Co.
BENJAMIN FRANKLIN WALTON	B. S.	Biltmore, N. C.	In Forestry Dept., Biltmore Farm.
JOHN McCAMY WILSON	B. E.	Salem, N. C.	With Salem Iron Works.

FRANK THEOPHILUS MEACHAM	M. S.	Biltmore, N. C.	See Class of 1893.

CLASS OF 1895.

Name.	*Degree.*	*Address.*	
THOMAS MARTIN ASHE	B. E.	Raleigh, N. C.	Architect with Carpenter & Peebles.
JAMES ADRIAN BIZZELL	B. S.	Raleigh, N. C.	Assistant in Chemistry, N. C. College of Agriculture and Mechanic Arts.
JOHN ISHAM BLOUNT	B. E.	Raleigh, N. C.	Tutor of Sub-Freshman Class, N. C. College of Agriculture and Mechanic Arts.
JAMES WASHINGTON BRAWLEY	B. S.	Mooresville, N. C.	Farmer.
WALTER AUSTIN BULLOCK	B. S.	Bainbridge, Ga.	Manager Brooks Dairy Farm.
DAVID CLARK	B. E.	Raleigh, N. C.	Assistant in Drawing, N. C. College of Agriculture and Mechanic Arts.
GEO. WASHINGTON CORBETT, JR.	B. E.	Raleigh, N. C.	Engineer of the Raleigh Electric Company.
EDWIN SPEIGHT DARDEN	B. S.	Speight's Bridge, N. C.	Farmer.

WILLIAM KEARNEY DAVIS, JR.,.....B. E..................Louisburg, N. C.
JOSEPH CHARLES DEY..........................B. S..................Norfolk, Va.
With Williams Bros., Commission Merchants.
LEE BARDEN ENNETT.............................B. S..................Cedar Point, N. C.
Farmer.
ISAAC HENRY FOUST,..............................B. E..................Charlotte, N. C.
Supt, Roller Mills.
CHARLES WYLLIS GOLD.......................B. S..................Wilson, N. C.
Business Manager of Wilson *Times*, and Dairy Farmer.
WILLIAM HENRY HARRISS,...............B. E..................Charlotte, N. C.
Draughtsman for the D. A. Tompkins Co.
CHRISTOPHER MILLER HUGHES,.....B. E..................Raleigh, N. C.
Post-Graduate Student of Chemistry, N. C. College of Agriculture and Mechanic Arts.
MALCOLM BEALL HUNTER,................B. E..................Charlotte, N. C.
With Ada Cotton Mills.
SAM'L CHRISTOPHER MCKEOWN,....B. E..................Cornwall, N. C.
Supt. Machine Shops.
MANN CABE PATTERSON,....................B. E..................Salem, N. C.
With Salem Iron Works.
ABRAM HINMAN PRINCE........................B. S..................Oxford, N. C.
Supt. of Farm, Oxford Orphan Asylum.
VICTOR VASHTI PRIVATT,....................B. E..................Edenton, N. C.
With Lumber Company.
HOWARD WISWALL, JR.,.......................B. E..................Washington, N. C.
In Coast Geodetic Survey.
CHARLES GARRETT YARBROUGH,..B. E..................Pittsburg, Pa.
With Western Electric Co.

CHAS. MARCELLUS PRITCHETT,.......M. E..................Raleigh, N. C.
Instructor in Drawing and Shop Work, N. C. College of Agriculture and Mechanic Arts.

CLASS OF 1896.

Name. *Degree.* *Address.*

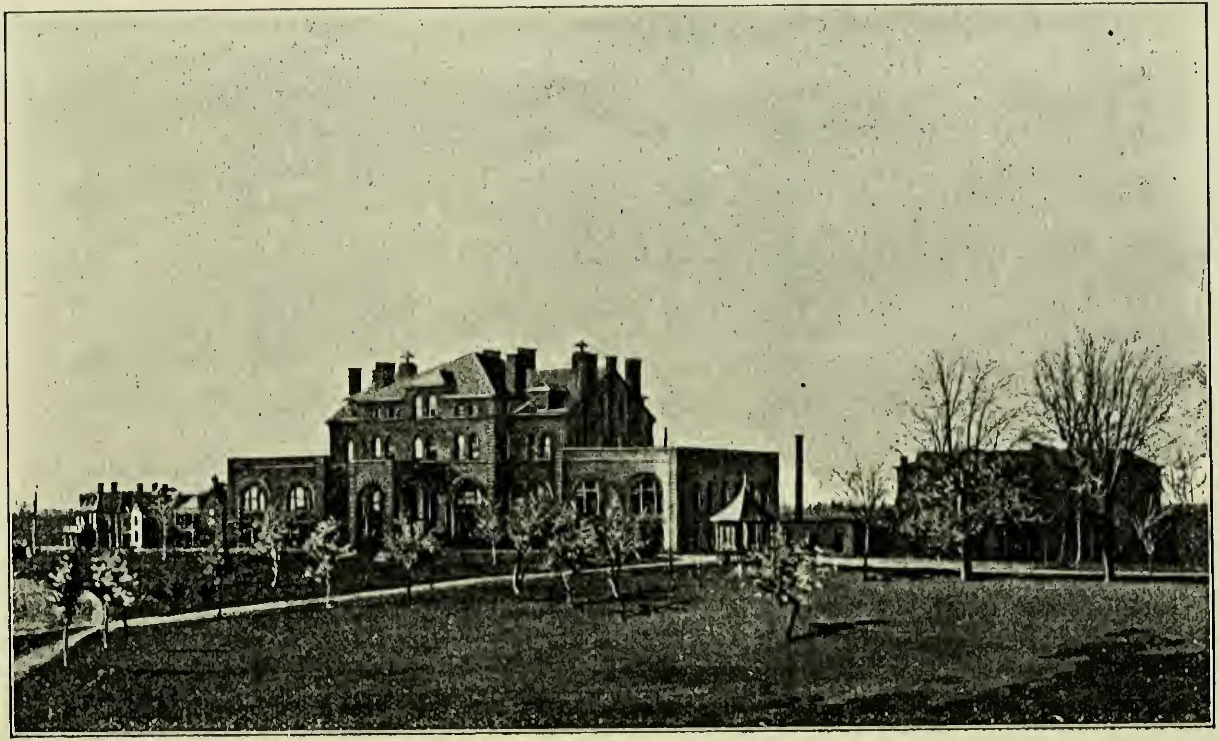
DANIEL ALLEN,..B. S..................Raleigh, N. C.
With S. C. Pool's Shoe Store.
GEORGE STRONACH FRAPS,.................B. S..................Baltimore, Md.
Student of Chemistry and Honorary Hopkins Scholar, Johns Hopkins University.
MARION JACKSON GREEN,...................B. S..................Victor, N. C.
Assistant in Victor High School.
JOHN HOWARD,.......................................B. S..................Tarboro, N. C.
Architect and Engineer.

William Colbert Jackson..........B. S..................Winterville, N. C.
Farmer.
Robert Graham Mewborne,........B. S..................Richmond, Va.
Assistant Chemist, Virginia-Carolina Chemical Co.
Levi Romulus Whitted...................B. S..................Raleigh, N. C.
Assistant in Physics and Electricity, N. C. College of Agriculture and Mechanic Arts.
Henry Lloyd Williams...............B. S..................Gatesville, N. C.

Lamuel Erson Asbury,.................M. S..................Raleigh, N. C.
See Class of 1893.
Charles Burgess Williams,.........M. S..................Baltimore, Md.
See Class of 1893.

David Clark,.....................................M. E..................Raleigh, N. C.
See Class of 1895.
William Henry Harriss,.............M. E..................Charlotte, N. C.
See Class of 1895.

Chas. Marcellus Pritchett,......C. E..................Raleigh, N. C.
See Class of 1895.



COLLEGE AND GROUNDS.

NINTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH.

1897-1898.

FALL TERM BEGINS THURSDAY, SEPTEMBER 1, 1898.

RALEIGH:
Guy V. Barnes, Printer to Council of State.
1898.

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TABULAR ALMANAC.

1897.

JULY.

S	M	T	W	T	F	S
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4	5	6	7	**8**	9	10
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AUGUST.

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OCTOBER.

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1898.

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DECEMBER.

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1899.

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FEBRUARY.

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MARCH.

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MAY.

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JUNE.

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COLLEGE CALENDAR.

1897.

Thursday,	July	8,	Examinations for admission at county-seats by county supervisors.
Thursday,	September	9,	
Wednesday,	September	8,	Examinations for admission.
Thursday,	September	9,	Fall Terms begins; Registration Day.
Friday,	September	10,	Recitations begin.
Thursday,	November	25,	Thanksgiving Day.
Wednesday,	December	22,	Fall Term ends.

1898.

Tuesday,	January	4,	Winter Term begins; Registration Day.
Monday,	February	14,	Announcement of Subjects for Theses.
Friday,	March	18,	Winter Term ends.
Tuesday,	March	22,	Spring Term begins; Registration Day.
Friday,	May	13,	Last Day for submitting Theses.
Friday,	May	20,	Senior Examinations end.
Sunday,	May	29,	Baccalaureate Sermon.
Tuesday,	May	31,	Annual Oration.
Wednesday,	June	1,	Commencement Day.

Thursday,	July	14,	Examinations for admission at county-seats by county supervisors.
Thursday,	September	8,	
Wednesday,	August	31,	Examination at the College for admission.
Thursday,	September	1,	Fall Term begins; Registration Day.
Friday,	September	2,	Recitations begin.
Thursday,	November	24,	Thanksgiving Day.
Thursday,	December	22,	Fall Term ends.

1899.

Tuesday,	January	3,	Winter Term begins; Registration Day.
Monday,	February	13,	Announcement of Subjects of Theses.
Friday,	March	17,	Winter Term ends.
Tuesday,	March	21,	Spring Term begins; Registration Day.
Friday,	May	19,	Last Day for submitting Theses.
Friday,	May	26,	Senior Examinations end.
Friday,	June	2,	Examinations end.
Sunday,	June	4,	Baccalaureate Sermon.
Tuesday,	June	6,	Annual Oration.
Wednesday,	June	7,	Commencement Day.

HISTORY.

The Colleges of Agriculture and Mechanic Arts now doing such useful work in the United States were established by the States largely as a result of the liberality of the General Government which, in 1862, passed a law by which each State in the Union received public lands in proportion equal to thirty thousand acres for each Senator and Representative in Congress "for the endowment, support, and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts. * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

In 1887 the Legislature of North Carolina decided that the funds arising from this act should go to this College, and ground for the institution having been given by the late R. S. Pullen, of Raleigh, the work of putting up a suitable building was finished in 1889, and the College opened its doors in October of that year.

In 1890 what is known as the "Supplementary Morrill Bill" was passed by Congress. This bill makes a direct yearly appropriation from the United States Treasury to each State that maintains an Agricultural and Mechanical College.

From these two acts the College gets about two-thirds of its annual income—the other third is supplied by State appropriation. In 1889 the new institution began its work with five members in its faculty and with one building. In the eight years since elapsing, the faculty has grown to twenty-three members and the buildings have increased to twelve.

LOCATION.

The College is situated on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, three-fourths of a mile west of the city limit. The site is in all respects a suitable one. The ground slopes away from the buildings, giving opportunity for perfect drainage, thus securing this additional requisite of healthful surroundings.

BOARD OF TRUSTEES.

J. C. L. Harris, Raleigh,
President of the Board.

First Appointed.	*Members.*	*Representatives of*	*Term Expires.*
1897	L. C. Edwards, Oxford	State-at-Large	1903
1897	J. C. L. Harris, Raleigh	State-at-Large	1903
1897	James J. Britt, Bakersville	Ninth District	1903
1897	John W. Harden, Jr., Raleigh	State-at-Large	1901
1897	Matt Moore, Warsaw	Third District	1901
1897	J. Z. Waller, Burlington	Fifth District	1901
1897	Henry G. Connor, Wilson	Second District	1899
1897	Joseph R. Chamberlain, Raleigh	Fourth District	1899
1897	Henry E. Bonitz, Wilmington	Sixth District	1899
1897	B. F. Dixon, King's Mountain	Eighth District	1899
1897	S. L. Crowder, Halifax	State-at-Large	1899
1898		First District	1899
1898		State-at-Large	1899
1898		Seventh District	1899
1897	Alex. Q. Holladay	Pres. A. & M. College.	*Ex officio.*

EXECUTIVE COMMITTEE.

J. C. L. Harris, *Chairman.*
J. R. Chamberlain, J. Z. Waller,
Alex. Q. Holladay, S. L. Crowder.

FINANCE COMMITTEE.

John W. Harden, Jr., *Chairman.*
B. F. Dixon, L. C. Edwards.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
(LL. D., Davidson College; University of Virginia; University of Berlin),
President and Professor of History.

W. F. MASSEY,
(C. E., Union College; Washington College; Dickinson College),
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS,
(A. M., Davidson College; Fellow, Cornell University),
Professor of Pure and Agricultural Chemistry.

D. H. HILL, A. M.,
Professor of English.

W. C RIDDICK,
(A. B., University of North Carolina; C. E., Lehigh University),
Professor of Civil Engineering and Mathematics.

JOHN C. GRESHAM,
(Graduate U. S. Military Academy; Capt. 7th Cavalry U. S. Army),
Professor of Military Science and Tactics.

FRANK E. EMERY,
(B. S., and M. S., Maine State College, now University of Maine),
Professor of Agriculture.

F. A. WEIHE,
(M. E., Lehigh University; Ph. D., University of Berlin, Germany),
Professor of Physics and Electrical Engineering.

C. W. SCRIBNER,
(A. B., Princeton; M. E., Stevens),
Professor of Mechanical Engineering, and Secretary.

E. G. BUTLER,
Assistant Professor of English, and Bursar.

CHARLES M. PRITCHETT,
(B. S., Ga. School of Tech.; M. E., C. E., N. C. College of Agriculture and Mechanic Arts),
Instructor in Drawing and Shop Work.

CHARLES B. PARK,
Superintendent of Shops.

B. S. SKINNER,
Farm Superintendent.

C. D. FRANCKS,
(B. E., N. C. College of Agriculture and Mechanic Arts),
Instructor in Mathematics and Civil Engineering.

J. A. BIZZELL,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Instructor in Chemistry.

THOMAS L. WRIGHT,
(B S., University of North Carolina),
Instructor in Mathematics.

C. W. HYAMS,
(Trinity College; University of Tennessee),
Instructor in Botany.

J. M. JOHNSON,
(B. S., Univ. W. Va.; M. S., Cornell University),
Instructor in Agriculture.

*L. R. WHITTED,
(B. S., C. E., N. C. College of Agriculture and Mechanic Arts),
Assistant in Physics and Electrical Engineering.

J. W. CARROLL,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Dairyman.

W. A. G. CLARK,
(B. S., N. C. Agricultural and Mechanical College),
Assistant in Civil Engineering.

H. W. PRIMROSE,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Chemistry.

J. L. WATSON,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Shop Work and Drawing.

MRS. SUE. C. CARROLL,
Matron.

JAS. R. ROGERS,
(A B., Wake Forest; M. D., Col. of Phys. and Surg., Baltimore),
Physician.

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*Resigned in April.

THE NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION.

STATION COUNCIL.

Alex. Q. Holladay, LL. D., President.

W. A. Withers, A. M	Professor of Chemistry.
F. E. Emery, M. S.	Professor of Agriculture.
W. F. Massey, C. E	Professor of Horticulture.

EXPERIMENT STATION STAFF.

W. A. Withers, A. M., Acting Director.

W. A. Withers, A. M	State Chemist.
F. E. Emery, M. S.	Agriculturist.
W. F. Massey, C. E	Horticulturist.
C. B. Williams, M. S.	Assistant Chemist.
H. K. Miller, M. S.	Assistant Chemist.
C. D. Harris, B. S.	Assistant Chemist.
A. W. Blair, A. M.	Assistant Chemist.
J. A. Bizzell B. S.	Assistant Chemist.
F. G. Kelly	Assistant Chemist.
G. S. Fraps, B. S.	Assistant Chemist.
Alex. Rhodes	Assistant Horticulturist.
C. W. Hyams	Assistant Botanist.
J. M. Johnson, M. S	Assistant Agriculturist.
F. E. Hege	Poultryman.
B. S. Skinner	Superintendent of Farm.
J. M. Fix	Secretary.
H. E. King	Chief Clerk.
C. M. Hughes, B. E.	Clerk.
Miss M. S. Birdsong	Stenographer.
Mrs. L. V. Darby	Stenographer.

The Director's office is in the main building of the College. Telephone No. 135 C. The street cars pass within one hundred yards of the College building.

EXPERIMENT STATION PUBLICATIONS.

These publications are prepared for the benefit of the farmers of the State, the truckers, nurserymen, stock-raisers, etc. The value of these publications to the individual receiving them depends entirely upon the amount of thought and consideration given to them. There is such a demand for them in the State, and outside, that it is not desirable to send them to those who do not wish to profit by them. They are sent cheerfully and free of charge, on request, to anyone in the State who will read and study them. Make the request on a postal card, addressed *Agricultural Experiment Station, Raleigh.*

These bulletins are different from the Monthly Bulletins published by the Department of Agriculture, application for which should be made to the Commissioner of Agriculture.

COURSES OF STUDY.

The three general courses of study offered in this institution are in Agriculture, in Engineering and in Science.

In the Freshman year, all students have the same subjects of study. These subjects are given by the following table:

FRESHMAN CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number
Arithmetic	4	—	—	29	1
Algebra	2	5	5	29	2
Introductory Rhetoric	3	3	3	31	1
Composition	1	1	1	31	2
American History	1	1	1	32	1
Human Physiology	4	—	—	22	1
Soil Physics	—	4 (part)	—	23	1
Market Gardening	—	4 (part)	—	23	2
Elementary Morphology	—	—	2	23	3
Elements of Agriculture	—	—	2	22	2
Elementary Physics	3	3	3	26	1
Free Hand Drawing	3	—	—	27	2*a*
Elementary Mechanical Drawing	—	3	3	27	2*b*
Carpenter Shop	4	4	4	27	3*a*

At the beginning of the Sophomore year the courses begin to specialize, and the student selects the course best fitted to his needs. With each of the higher classes, more time is given to the technical studies of the course. A thesis is required for graduation.

THE COURSE IN AGRICULTURE.

The technical work of this course includes work in the departments of Agriculture, Horticulture and Chemistry.

Inasmuch as this is not a manual labor training school, no attempt is made to educate a young man to be *simply* a farm laborer, but he receives, in addition to his practical work, a higher training that will fit him for a life of more extended usefulness.

SOPHOMORE CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number
Breeds of Live Stock	—	2 (part)	—	22	4
Stock Feeding	—	2 (part)	—	22	5
Zoology	—	—	2	22	6
Agricultural Practice	—	2	4	22	3*a*
Structural Botany	2	2	—	23	4
Entomology	—	2	—	24	6
Pomology	3	4	—	24	5
Systematic Botany	—	—	4	24	7
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Geometry	5	5	4	29	3
Trigonometry	—	—	2	30	4
Architecture	3	—	—	30	13
Architectural Drawing	5	—	—	30	14
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	32	2
Book-keeping	—	1	1	31	15

JUNIOR CLASS.

SUBJECTS.	1st Term.	2d Term.	3d Term.	page	number
Staple Crops	3 (part)	—	—	22	7
Veterinary Science	3 (part)	—	—	23	8
Dairying	—	3	—	23	9
Dairy Bacteriology	—	—	3	23	10
Agricultural Practice	4	8	—	22	3*b*
Physiological Botany	4 (part)	—	—	24	8
Forestry	4 (part)	—	—	24	9
Vegetable Histology	4	—	—	24	10
Palæobotany	—	2	—	24	11
Green-house Propagation	—	2	—	24	12
Cryptogamic Botany	—	—	2	24	13
Agricultural Chemistry	3	3	3	25	3
Industrial Chemistry	—	—	2	25	4
Qualitative Analysis	6	6	6	25	5
Surveying	—	2	2	30	9
Surveying, Field Work	—	—	9	30	10
Trigonometry	3	—	—	30	4
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	32	3

SENIOR CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number.
Meteorology	5	—	—	23	11
Soil Physics	—	5	—	23	12
Stock Breeding	—	—	5 (part)	23	13
Agricultural Economics	—	—	5 (part)	23	14
Agricultural Practice	4	4	4	22	3*c*
Horticulture	2	—	—	24	14
Floriculture	—	2	—	24	15
Landscape Gardening	—	—	4	24	16
Horticultural Practice	4	4	4	24	17
Organic Chemistry	3	3	3	25	6
Introductory Quantitative Analysis	8	—	—	25	7
Advanced Quantitative Analysis	—	8	8	25	8
History of English Literature	3	3	3	32	8
Ecclesiastical and Modern History	1	1	1	32	4
Military Tactics	1	1	1	33	1
Thesis.					

THE COURSE IN ENGINEERING.

The course in Engineering is designed to prepare the student to make the most of his subsequent experience, so that he may be soonest fitted to meet the demands of modern practice as an engineer, as a draughtsman, as a practical mechanic, or as an electrician.

The technical work is included in the departments of Mechanical, Civil and Electrical Engineering, and toward the end of the course the student is allowed to specialize somewhat in one of these departments.

SOPHOMORE CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number.
Architecture	3	—	—	30	13
Architectural Drawing	5	5	—	30	14
Mechanical Drawing	—	2	5	27	2*c*
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Geometry	5	5	4	29	3
Trigonometry	—	—	2	30	4
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	32	2
Book-keeping	—	1	1	31	15
Turning and Pattern Shop	6	6	6	27	3*b*

JUNIOR CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number
Kinematics	1	—	—	27	1
Steam Engine	3	2	—	28	5
Valve Gears	2	2	—	28	6
Drawing and Designing	5	5	5	27	2*d*
Forge Shop	9	9	—	27	4*a*
Mechanics	3	—	—	30	7
Graphical Statics	—	3	—	30	8
Surveying	—	2	2	30	9
Surveying, Field Work	—	—	9	30	10
Elementary Electricity and Magnetism	—	—	3	26	2
Physical Laboratory	—	—	2	26	7*a*
Industrial Chemistry	—	—	2	25	4
Trigonometry	3	3 (part)	—	30	4
Analytical Geometry	—	3 (part)	3	30	5
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	32	3

SENIOR CLASS.

Analytical Mechanics	3	3	—	28	9
Strength of Materials	—	—	3	29	10
Mechanics of Machinery	—	—	2	28	8
Machine Design	4	3	3	29	11
Boiler Design	1	2	2	28	7
Hydraulics	—	—	2	30	12
Machine Shop	7	7	7	27	4*b*
Elementary Electricity and Magnetism	3	—	—	26	2
Electrical Laboratory	4	—	—	26	8
Mechanical Laboratory } A	—	4	5	29	12
Roofs, Bridges and Arches }	—	3	2	30	11
Dynamo Electric Machinery } B	—	3	3	26	6
Electrical Engineering Laboratory }	—	4	4	27	9
Calculus	4	4	—	30	6
History of English Literature	3	3	3	32	8
Ecclesiastical and Modern History	1	1	1	32	4
Military Tactics	1	1	1	33	1
Thesis.					

NOTE.—Those who elect Electrical Engineering take B, other Engineers take A.

THE COURSE IN SCIENCE.

This course affords the student an opportunity to devote his time to special work in Entomology, Zoology, Botany, Agricultural and Analytical Chemistry, Physics, applied Electricity, applied Mathematics, etc., in addition to the general studies. During the Senior year the work is very largely elective and the subjects are arranged in groups so as to suit the needs of the student.

SOPHOMORE CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number
Breeds of Live Stock	—	2 (part)	—	22	4
Stock Feeding	—	2 (part)	—	22	5
Zoology	—	—	2	22	6
Agricultural Practice	—	2	4	22	3*a*
Structural Botany	2	2	—	23	4
Entomology	—	2	—	24	6
Pomology	3	4	—	24	5
Systematic Botany	—	—	4	24	7
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Geometry	5	5	4	29	3
Trigonometry	—	—	2	30	4
Architecture	3	—	—	30	13
Architectural Drawing	5	—	—	30	14
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	32	2
Book-keeping	—	1	1	31	15

JUNIOR CLASS.

SUBJECTS.	Number of hours per week.			For brief description see	
	1st Term.	2d Term.	3d Term.	page	number
Physiological Botany	4 (part)	—	—	24	8
Forestry	4 (part)	—	—	24	9
Vegetable Histology	4	—	—	24	10
Palæobotany	—	2	—	24	11
Green-house Propagation	—	2	—	24	12
Cryptogamic Botany	—	—	2	24	13
Agricultural Chemistry	3	3	3	25	3
Qualitative Analysis	6	6	6	25	5
Industrial Chemistry	—	—	2	25	4
Surveying	—	2	—	30	9
Mechanics	3	—	—	30	7
Elementary Electricity and Magnetism	—	—	3	26	2
Physical Laboratory	—	—	2	26	7*a*
Trigonometry	3	3 (part)	—	30	4
Analytical Geometry	—	3 (part)	3	30	5
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	32	3

SENIOR CLASS—CHEMICAL GROUP.

SUBJECTS.		1st Term.	2d Term.	3d Term.	page	number
History of English Literature	required subjects. A	3	3	3	32	8
Ecclesiastical and Modern History		1	1	1	32	4
Organic Chemistry		3	3	3	25	6
Theoretical Chemistry		—	2	2	26	10
Introductory Quantitative Analysis		8	—	—	25	7
Advanced Quantitative Analysis		—	8	8	25	8
Theories of Light and Heat		3	—	—	26	3
Theory of Electricity and Magnetism		—	3	3	26	4
Physical Laboratory		2	2	2	26	7*b*
Military Tactics		1	1	1	33	1
Meteorology	B	5	—	—	23	11
Soil Physics		—	5	—	23	12
Stock Breeding		—	—	5 (part)	23	13
Agricultural Economics		—	—	5 (part)	23	14
Elementary Electricity and Magnetism	C	3	—	—	26	2
Physical Laboratory		4	4	4	26	7*b*
Advanced Quantitative Analysis	D	10	10	10	25	8
Thesis.						

NOTE.—In addition to the required subjects, A, one of the groups B, C or D, must be taken.

SENIOR CLASS—PHYSICAL GROUP.

SUBJECTS.		Number of hours per week.			For brief description see	
		1st Term.	2d Term.	3d Term.	page	number
History of English Literature	required subjects. E	3	3	3	32	8
Ecclesiastical and Modern History		1	1	1	32	4
Theories of Light and Heat		3	—	—	26	3
Theory of Electricity and Magnetism		—	3	3	25	4
Elementary Electricity and Magnetism		3	—	—	26	2
Theoretical Mechanics		—	3	3	26	5
Physical Laboratory		6	6	6	26	7*b*
Introductory Quantitative Analysis		8	—	—	25	7
Advanced Quantitative Analysis		—	8	8	25	8
Military Tactics		1	1	1	33	1
Calculus	F	4	4	2	30	6
Organic Chemistry	G	3	3	3	25	6
Thesis.						

NOTE.—In addition to the required subjects, E, one of the two groups, F or G, must be taken.

SENIOR CLASS—BIOLOGICAL GROUP.

History of English Literaature	required subjects. H	3	3	3	32	8
Ecclesiastical and Modern History		1	1	1	32	4
Horticultural Practice		4	4	4	24	17
Organic Chemistry		3	3	3	25	6
Biology		6	6	6	24	18
Military Tactics		1	1	1	33	1
Meteorology	I	5	—	—	23	11
Soil Physics		—	6	--	23	12
Stock-Breeding		—	—	5 (part)	23	13
Agricultural Economics		—	—	5 (part)	23	14
Agricultural Practice		4	4	4	22	3*c*
Chemical Laboratory	J	12	12	12	25	7&8
Thesis.						

NOTE.—In addition to the required subjects, H, one of the groups I or J must be taken.

POST-GRADUATE COURSES.

Post-graduate courses have been established, leading to the degrees of Master of Science (M. S.), Mechanical Engineer (M. E.), Civil Engineer (C. E.), and Electrical Engineer (E. E.).

The Faculty will recommend for advanced degrees candidates who, having taken the Bachelor's Degree at this College, in Agriculture, Science or Engineering, shall pursue for at least two years a course of study as indicated below, and shall pass the required examinations:

Candidates for the Master's degree may take their major subject in the departments of Agriculture, Horticulture, Chemistry or Physics. Minor subjects may be taken in Agricultural Analysis, Organic Synthesis, Theoretical Chemistry, Vertebrate Zoology, Veterinary Science, Cryptogamic Botany, Invertebrate Zoology, Heat, Optics, Electricity and Mechanics, two of which must be taken.

Candidates for the degrees of M. E., C. E. and E. E., may choose some special line of work in one of the Engineering departments. The professor in charge will prescribe a course made up largely of general studies and practice in the work of his department, but including also special subjects in the line chosen by the student.

A thesis embodying some special design, or the results of some original investigation, must be submitted and accepted before the final examinations are taken.

The studies will be carefully adapted to the expansion and development of the special lines of work selected by graduate students for a professional calling.

IRREGULAR WORK.

Students who are otherwise qualified may be allowed to elect certain studies from the regular courses already provided in the College, if no inconvenience result therefrom to the members of the regular class.

SUB-FRESHMAN CLASS.

A Sub-Freshman Class has been organized, to give special preparation to such young men as are unable to enter the Freshman Class, and who nevertheless desire a technical education. No county will be allowed to have more representatives in this class than it has in the House of Representatives of the General Assembly.

SUBJECTS OF INSTRUCTION.

AGRICULTURE.

PROFESSOR EMERY.
MR. JOHNSON. MR. SKINNER.

In the instruction in Agriculture the attempt is made to present the affairs pertaining to the farm as nearly as possible in harmony with the presentation of scientific truths which the students are receiving in Chemistry, Physics, Physiology and other branches. All these are required by the intelligent Agriculturist to enable him to understand and turn to his own account, as he must constantly be doing, the natural laws of these sciences. He is taught that it is important to know the reason for every farm operation, and that this knowledge, logically applied to farm practice with diligence, will insure success.

The practice given during the regular course is educational rather intended to be of much economic value to the College. Regular laborers and students working for pay, outside of regular hours for college exercises, must be depended on for farm operations. For such work as students perform on Saturdays and regularly mornings and evenings, in the care of stock and on such other work as can be found for them to do, students are paid by the hour.

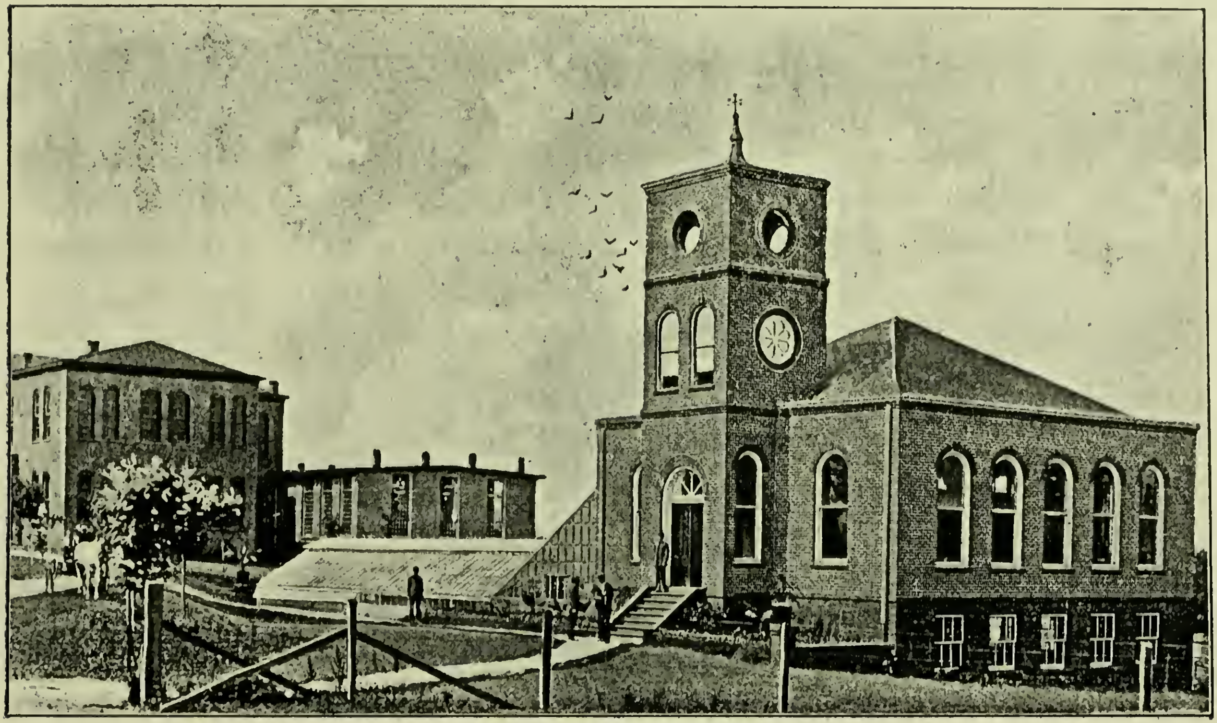
1. HUMAN PHYSIOLOGY.—*Hutchinson's Text-book*, supplemented by charts and illustrations. Four hours, first term. Required of all Freshmen.
2. ELEMENTS OF AGRICULTURE.—Recitations. Two hours, third term. Required of all Freshmen.

3*a*. AGRICULTURAL PRACTICE.—Work in the field, stable, dairy, and with farm machinery. Two hours, second term, and four hours, third term. Required of Sophomores in Agriculture and Science.

3*b*. AGRICULTURAL PRACTICE.—Continuation of 3*a*. Four hours. Required of Juniors in Agriculture.

3*c*. AGRICULTURAL PRACTICE.—Continuation of 3*b*. Four hours. Required of Seniors in Agriculture and in Science-I.

4. BREEDS OF LIVE STOCK.—Two hours, second term (part). Required of Sophomores in Agriculture and Science.
5. STOCK FEEDING.—Stoichiology. Two hours, second term (part). Required of Sophomores in Agriculture and Science.
6. ZOOLOGY.—Two hours, third term. Required of Sophomores in Agriculture and Science.
7. STAPLE CROPS.—Lectures. Three hours, first term (5 weeks). Required of Juniors in Agriculture.



HORTICULTURAL DEPARTMENT.

8. VETERINARY SCIENCE.—Three hours, first term (5 weeks). Required of Juniors in Agriculture.
9. DAIRYING.—Lectures. Three hours, second term. Required of Juniors in Agriculture.
10. DAIRY BACTERIOLOGY.—Russell's *Dairy Bacteriology*. Three hours, third term. Required of Juniors in Agriculture.
11. METEOROLOGY.—Recitations. Five hours, first term. Required of Seniors in Agriculture and in Science-B and -I.
12. SOIL PHYSICS.—Recitations and Lectures. Five hours, second term. Required of Seniors in Agriculture and in Science-B and -I
13. STOCK BREEDING.—Text-Book and Notes. Five hours, third term (part). Required of Seniors in Agriculture and in Science-B and -I.
14. AGRICULTURAL ECONOMICS.—Lectures. Fertility of soils, farm machinery, farm management. Five hours, third term (part). Required of Seniors in Agriculture and in Science-B and -I.

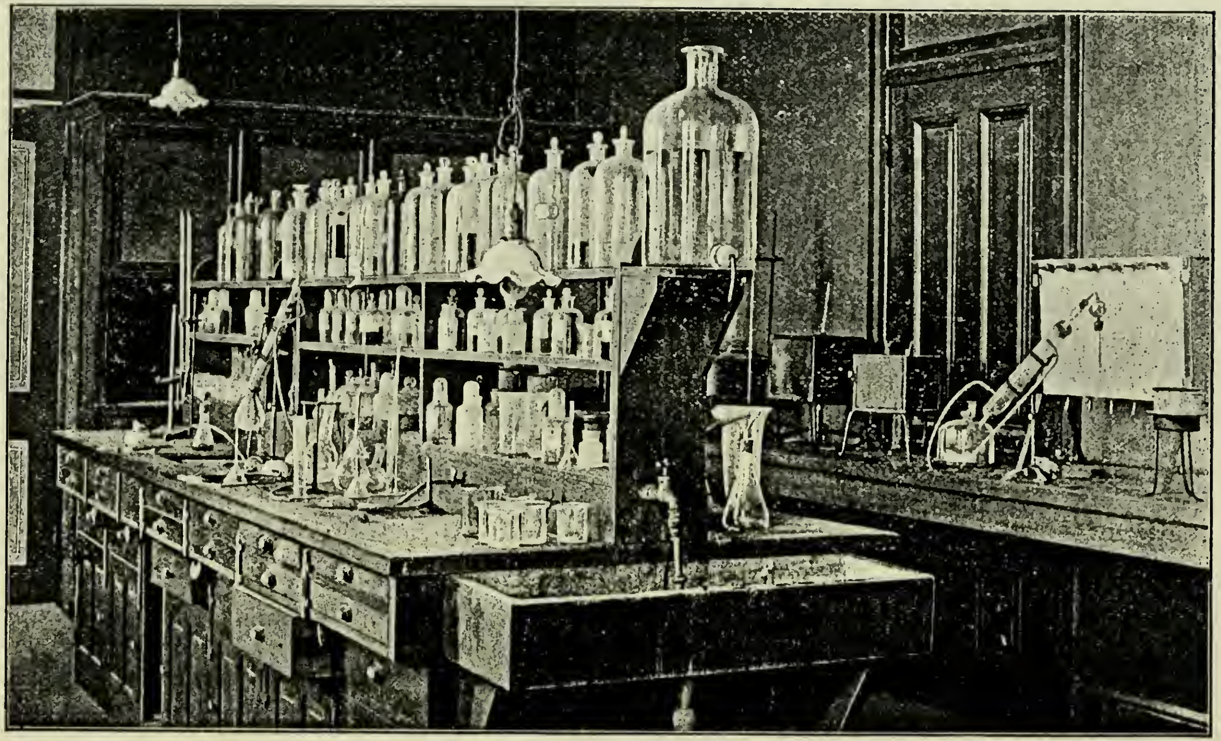
HORTICULTURE, ARBORICULTURE AND BOTANY,

PROFESSOR MASSEY. MR. HYAMS.

A thorough knowledge of the structure and physiological functions of plants being the basis of all accurate knowledge of Horticulture, special effort will be made to give thorough instruction in Botany as a branch of Biology. Systematic Botany will also receive attention, and will be taught, not by the mere memorizing from a text book, but by a practical study of plants and the characteristics upon which classification is founded. Horticulture in all its branches will be treated as advanced work, to come in after the work in science is completed, so that in the Senior year there may be an opportunity for those who wish to make a specialty of Commercial Horticulture to prepare for the work of a professional Horticulturist, by practical study of green-house propagation, the forcing of vegetables, fruits and flowers under glass, landscape gardening, road-making, the construction of horticultural buildings, and forestry.

1. SOIL PHYSICS.—Four hours, second term (part). Required of all Freshmen.
2. MARKET GARDENING.—Massey's *Trucking in the South*. Four hours, second term (part). Required of all Freshmen.
3. ELEMENTARY MORPHOLOGY.—Bailey's *Lessons with Plants*. Plant structure with practical study of natural forms. Two hours, third term. Required of all Freshmen.
4. STRUCTURAL BOTANY.—Bailey's *Lessons with Plants*. Two hours, first and second terms. Required of Sophomores in Agriculture and Science.

5. POMOLOGY.—Practice. Application of principles to pomology with practice in budding, pruning and grafting. Three hours, first term; four hours, second term. Required of Sophomores in Agriculture and Science.
6. ENTOMOLOGY.—Comstock's *Elements*. Two hours, second term. Required of Sophomores in Agriculture and Science.
7. SYSTEMATIC BOTANY.—Practice. Collection of native plants and formation of herbarium. Four hours, third term. Required of Sophomores in Agriculture and Science.
8. PHYSIOLOGICAL BOTANY.—Lectures. Four hours, first term (part). Required of Juniors in Agriculture and Science.
9. FORESTRY.—Lectures on forests, timbers and forest products. Four hours, first term (part). Required of Juniors in Agriculture and Science.
10. VEGETABLE HISTOLOGY.—Spalding's *Introductory* and Hillhouse's *Translation of Strasburger*. Laboratory work with microscope. Four hours, first term. Required of Juniors in Agriculture and Science.
11. PALÆOBOTANY.—Dawson's *Geological History of Plants*. A general outline of geology, directed especially to the tracing of the development of plant life with geological periods. Two hours, second term. Required of Juniors in Agriculture and Science.
12. GREEN-HOUSE PROPAGATION.—Practice in green-house. Two hours, second term. Required of Juniors in Agriculture and Science.
13. CRYPTOGAMIC BOTANY.—Laboratory practice. Two hours, third term. Required of Juniors in Agriculture and Science.
14. HORTICULTURE.—Lectures. The principles and practices of market gardening, the culture of small fruits and vegetables out of doors and under glass, green-house management, structure of green-houses and heating apparatus. Two hours, first term. Required of Seniors in Agriculture, and in Science-I.
15. FLORICULTURE.—Lectures. Commercial culture of flowers in open ground and under glass. Two hours, second term. Required of Seniors in Agriculture and Science.
16. LANDSCAPE GARDENING.—Lectures. Laying out of grounds, and history of garden art. Four hours, third term. Required of Seniors in Agriculture, elective for Seniors in Science.
17. HORTICULTURAL PRACTICE.—Practice in field, green-house and grounds, to supplement Nos. 14, 15 and 16. Four hours. Required of Seniors in Agriculture and in Science-H.
18. BIOLOGY.—*Dodge*. Six hours. Required of Seniors in Science-H.
19. ELEMENTS OF BACTERIOLOGY.—*Abbott*. Elective for Seniors in Science, and Post-Graduates.
20. BACTERIOLOGICAL LABORATORY.—Practice. Elective for Seniors in Science, and Post-Graduates.



CHEMICAL LABORATORY.

CHEMISTRY.

PROFESSOR WITHERS.
MR. BIZZELL. MR. PRIMROSE.

1. INORGANIC CHEMISTRY.—The common elements and their principal compounds are studied, together with some of the fundamental principles of the science. Due attention is given to Stoichiometry. The lectures and recitations are illustrated with experiments and the exhibition of specimens, to which reference is made. Remsen's *Introduction to the Study of Chemistry.* Three hours. Required of all Sophomores.
2. EXPERIMENTAL CHEMISTRY.—The student repeats for himself, under the eye of the instructor, the experiments performed in the lecture room. He records in a note book his results and his explanations of the same. Remsen and Randall's *Laboratory Guide.* Four hours. Required of all Sophomores.
3. AGRICULTURAL CHEMISTRY.—The lectures follow Mayer. Attention is given to a consideration of the atmosphere as a plant feeder; the mineral and organic constituents of the plant, and their functions; the soil and its relations to the plant; means of improving the soil; the preparation of manures and composts; green manuring; the composition of fodder, and the different means of curing and preserving it; chemistry of butter, of milk, etc. Three hours. Required of Juniors (or Seniors) in Agriculture.
4. INDUSTRIAL CHEMISTRY.—Attention is given to the more common chemical industries, as sulphuric-acid-making, bleaching, dyeing, fertilizer-making, paints, oil, gas, fuels, metallurgy of iron and other useful metals, etc. Visits are made with the class to plants in the vicinity. Two hours, third term. Required of Juniors in all courses.
5. QUALITATIVE ANALYSIS.—The student is taught the identification of the more common elements in unknown compounds. He is required to write the reactions involved. Caldwell's *Chemical Analysis.* Six hours. Required of Juniors in Agriculture and Science.
6. ORGANIC CHEMISTRY.—*Remsen.* Three hours. Required of Seniors (or Juniors) in Agriculture, and of Seniors in Science.
7. INTRODUCTORY QUANTITATIVE ANALYSIS.—*Caldwell.* The student is taught the use of the balance and familiarized with a few of the more common volumetric and gravimetric determinations. Eight hours, first term. Required of Seniors in Agriculture and Science.
8. ADVANCED QUANTITATIVE ANALYSIS.—A continuation of 7. The student may devote his time to Agricultural, Technical or Physical Chemistry, depending upon his wishes. Eight (or more) hours, second and third terms. Required of Seniors in Agriculture and in Science-C and -E. Elective for Post-Graduates.

9. ORGANIC SYNTHESIS.—Orndorff's *Manual.* Seven hours. Elective for Juniors in Science and Post-Graduates.
10. THEORETICAL CHEMISTRY.—*Meyer.* Two hours. Required of Seniors in Science-A. Elective for Post-Graduates.
11. HISTORICAL CHEMISTRY.—*Von Meyer.* One hour. Elective for Seniors in Science and Post-Graduates.

PHYSICS AND ELECTRICAL ENGINEERING.

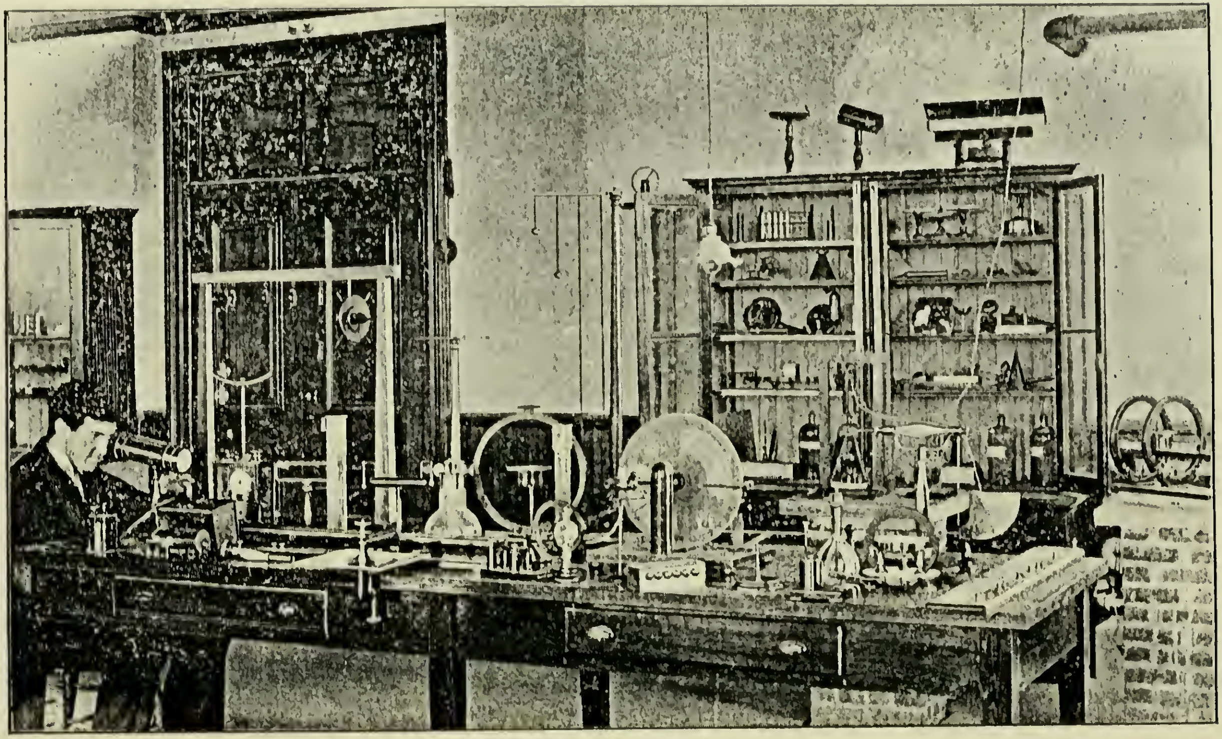
PROFESSOR WEIHE. MR. WHITTED.

1. ELEMENTARY PHYSICS.—Matter and its properties. dynamics of fluids, general dynamics. Molecular energy: Heat, sound. Radiant Energy: Light. Three hours. Required of all Freshmen.
2. ELEMENTARY ELECTRICITY AND MAGNETISM.—Frictional electricity, magnetism, current electricity, electro statics, electro-magnets, thermo-electricity, heat, power and light from electric currents, induction, electro-chemistry. Three hours, third term. Required of Juniors in Science and Engineering. Three hours, first term. Required of Seniors in Science-C and -E.
3. THEORIES OF LIGHT AND HEAT.—Light: Reflection, refraction, spectrum analysis, interference, polarization, optical instruments. Heat: Thermometry, calorimetry, properties of gases, thermodynamics. Three hours, first term. Required of Seniors in Science-A and -E.
4. THEORY OF ELECTRICITY AND MAGNETISM. Three hours, second and third terms. Required of Seniors in Science-A and E.
5. THEORETICAL MECHANICS.—Laws of motion, harmonic motion, statics, moments of inertia, pendulum. elasticity, hydro-mechanics. Three hours, second and third terms. Required of Seniors in Science-E.
6. DYNAMO ELECTRIC MACHINERY.—Electro-magnets, magnetic properties of iron, magnetic circuits, characteristic curves, efficiencies. Three hours, second and third terms. Required of Seniors taking Electrical Engineering.

7*a*. PHYSICAL LABORATORY.—Weighing, determination of density, measurement of length, area and volume, parallelogram of forces and couples, law of pendulum. Two hours, third term. Required of Juniors in Science and Engineering.

7*b*. PHYSICAL LABORATORY —Thermometry, specific heats, co-efficient of expansion, curvature of lenses, laws of reflection and refraction, polarization, velocity of sound, electric and magnetic measurements. Two hours. Required of Seniors in Science-A. Six hours. Required of Seniors in Science-C and -E.

8. ELECTRICAL LABORATORY.—Measurements of resistance, currents, electro-motive force, induction and capacity. Four hours, first term. Required of Seniors taking Engineering.



PHYSICAL LABORATORY.

9. ELECTRICAL ENGINEERING LABORATORY.—Calibration of measuring instruments, measurements on electric machinery. Continuation of 8. Four hours, second and third terms. Required of Seniors taking Electrical Engineering.

MECHANICAL ENGINEERING.

PROFESSOR SCRIBNER.
MR PRITCHETT. MR PARK.
MR. WATSON

1. KINEMATICS.—Elementary combinations pulleys and belts, link work, gearing, etc. Goodeve's *Elements of Mechanism.* One hour, first term Required of Juniors in Engineering.

2*a*. FREE-HAND DRAWING —An elementary drill in the use of the pencil, beginning with simple forms Sketches of objects, usually some piece of a machine. Three hours, first term. Required of all Freshmen.

2*b*. ELEMENTARY MECHANICAL DRAWING —Use of instruments. Drawing practice on elementary machine pieces Elementary projections. Drawings made to scale, from working sketches of pieces of machines Three hours, second and third terms. Required of all Freshmen.

2*c*. MECHANICAL DRAWING —Isometric sketches from Mechanical drawings. Elements of machine designs Working sketches and drawings of simple machine parts from the model. Shadow lines. Two hours, second term; five hours, third term. Required of Sophomores in Engineering and Science.

2*d*. DRAWING AND DESIGNING —Making working sketches, finished drawings, tracings and blue prints, from the tools and machines in the laboratories. Designing parts of tools or some piece of mechanism. Five hours Required of Juniors in Engineering.

3*a*. CARPENTER SHOP.—Bench work in wood. Exercises made from working drawings involving use of various tools, fitting of joints, etc Making and finishing simple articles. Four hours. Required of all Freshmen.

3*b*. TURNING AND PATTERN SHOP.—Use of wood-working machinery, exercises from working drawings made on lathes and other tools, principles of pattern-making. Six hours. Required of Sophomores in Engineering

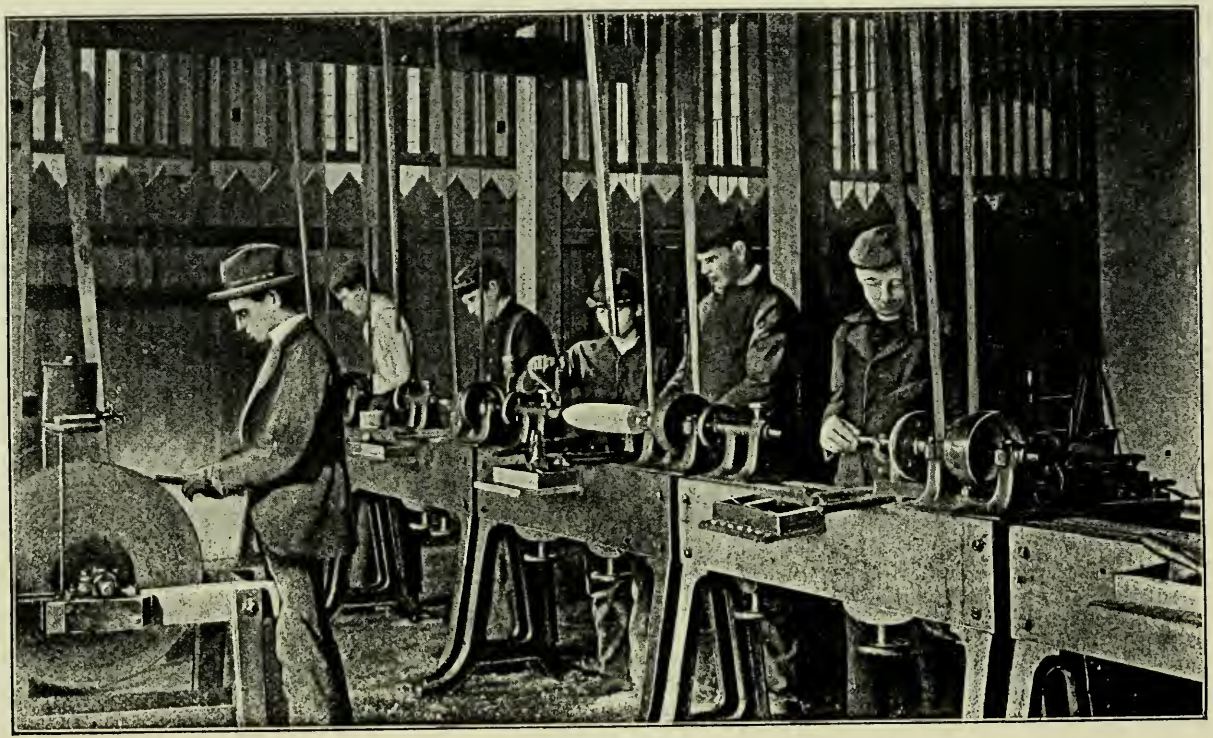
4*a*. FORGE SHOP.—Smith work in iron and steel. Exercises from drawings, involving forging, welding, tempering, etc. Nine hours, first and second terms Required of Juniors in Engineering.

4*b*. MACHINE SHOP.—Machine work in iron, steel, brass, etc. Exercises made from drawings on various machine tools. Construction of parts of a steam engine, dynamo or some other machine, or of laboratory apparatus involving machine tool work. Seven hours. Required of Seniors in Engineering.

5. STEAM ENGINE. Descriptive study of Engines and Boilers, covering the details of cylinders, pistons, valves, connecting-rods, bed plates, foundations, and the ordinary types of boilers with their settings. Holmes' *The Steam Engine*, supplemented by sketching from cuts, drawings, and such engines and boilers as are accessible. Three hours, first term; two hours, second term. Required of Juniors in Engineering.
6. VALVE-GEARS.—General theory of the slide-valve and link motions, and its application in the study and design of the valve mechanism of steam engines; problems and exercises. McCord's *The Slide Valve*. Two hours, first and second terms. Required of Juniors in Engineering.
7. BOILER DESIGN.—Value of fuels, determination of proper proportions for grate and heating surfaces, area and length of flues and tubes, diameter and thickness of shell, arrangement and proportions of stays, etc., for various forms of boilers. Making sketches and working drawings from original designs. Each student is required to design every part of a boiler after one of the well-known types, stationary, marine or locomotive (no two having the same), and to make complete working drawings and tracings. Peabody and Miller's *Steam Boilers*, supplemented by lectures. One hour, first term; two hours, second and third terms. Required of Seniors in Engineering.

7a. STEAM ENGINE DESIGN.—Determination of the proper proportions for cylinders, valves, pistons, rods, shafts, fly-wheels, etc. Making rough sketches and working drawings from original designs. Unwin's *Machine Design*, Part II. Each student is required to design the principal parts of an engine after one of the well-known types, calculating the parts when the question of strength enters, and following the general design of the chosen type when the proportions are matters of experience. Two hours, for Post-Graduates.

8. MECHANICS OF MACHINERY.—Application of the laws of forces to machines, determination of motive or driving forces, including considerations of acceleration, inertia, friction, wear and efficiency by use of analytical and graphical methods; solution of problems, lecture notes and reference books. Two hours, third term. Required of Seniors and Post-Graduates in Engineering.
9. ANALYTICAL MECHANICS.—Nature and measure of forces, moments, conditions of equilibrium, moment of inertia, laws of motion, constraining and accelerating forces, dynamics of a rigid body, momentum and impact, work, power, friction, application of principles to various engineering problems. Bowser's *Analytical Mechanics*. Three hours, first and second terms. Required of Seniors in Engineering.



LATHE ROOM.

10. STRENGTH OF MATERIALS.—Study of materials, law of stress and strain, bending and resisting moments, shear and moment diagrams, shear and elastic curves of cantilever, simple, restrained and continuous beams, column formulas, torsion, maximum internal stresses, common flexure theory tested by experiment, problems in beams, analysis and design, specifications. Merriman's *Mechanics of Materials.* Three hours, third term. Required of Seniors in Engineering.
11. MACHINE DESIGN.—Complete design and drawing of some piece of mechanism, involving cam motion, gearing, etc., design of some piece of machinery, such as a punch, shears, rivetting machine, crane, pump, hoist, water-motor, etc., studies and sketches of existing machines, determination of dimensions according to practice. *Unwin*, *Reuleaux*, *Kent*, *Haswell*, *Klein*, *Weisbach*, *Richards*, etc. Four hours, first term; three hours, second and third terms. Required of Seniors and Post-Graduates in Engineering.
12. MECHANICAL LABORATORY.—Determination of leverages and velocity ratios, manipulation of laboratory apparatus, testing gauges, indicator springs, dynamometers, weirs, boilers, engines, pumps, investigation of efficiencies of hoists, screws, etc., tests of materials for strength, co-efficient of friction. Four hours, second term; five hours, third term. Required of Seniors and Post-Graduates taking Mechanical Engineering.
13. THERMODYNAMICS.—Mechanical theory of heat. Application to steam, air and gas engines, and refrigerating machinery. Two hours, for Post-Graduates.
14. HYDRODYNAMICS.—The design of reaction and impulse turbines, measurement of flowing water, description and discussion of experiments. Hydraulic pressure engines. Bodmer's *Hydraulic Motors.* Two hours, for Post-Graduates.

MATHEMATICS AND CIVIL ENGINEERING.

PROFESSOR RIDDICK.
MR. FRANCKS. MR. WRIGHT.
MR. CLARK.

1. ARITHMETIC.—Begin with decimal fractions and complete the subject. Four hours, first term. Milne's *Standard Arithmetic.* Required of all Freshmen.
2. ALGEBRA.—To general theory of equations. Two hours, first term; five hours, second and third terms. Wells' *Higher Algebra.* Required of all Freshmen.
3. GEOMETRY.—Plane and solid. Five hours, first and second terms; four hours, third term. Wentworth's *Plane and Solid Geometry.* Required of all Sophomores.

4. TRIGONOMETRY.—Plane and spherical. Wentworth's *Trigonometry.* Two hours, third term. Required of all Sophomores. Three hours, first term. Required of all Juniors. Three hours, second term (part). Required of all Juniors in Science and Engineering.
5. ANALYTICAL GEOMETRY.—Conic sections, higher plane curves, geometry of three dimensions, surfaces of revolution. Three hours, second term (part) and third term. Nichols' *Analytical Geometry.* Required of Juniors in Engineering and Science.
6. CALCULUS.—Differential and integral. Four hours, first and second terms. Taylor's *Elements of Calculus.* Required of Seniors in Engineering and in Science-F. Two hours, third term. Required of Seniors in Science-F.
7. MECHANICS.—Kinematics, kinetics, work, friction, energy, momentum, composition and resolution of forces, moments. Three hours, first term. Wood's *Elementary Mechanics.* Required of Juniors in Engineering and Science.
8. GRAPHICAL STATICS.—Determination of stresses in frame structures by the graphic method. Three hours, second term. Lectures and original problems. Required of Juniors in Engineering.
9. SURVEYING.—Land surveying, leveling, elements of triangulation, topographical surveying, railroad surveying, road-making. Two hours, second and third terms. Wentworth's *Surveying*, Lectures. Required of Juniors in all courses.
10. SURVEYING, FIELD WORK.—Use of instruments (compass, transit, level and plane table). Practical work in land surveying, topography, leveling, railroad surveying, working up notes and platting. Nine hours, third term. Required of Juniors in Engineering and Agriculture.
11. ROOFS, BRIDGES AND ARCHES.—Determination of stresses in roof and bridge trusses by the analytical method, design and construction of arches, elements of bridge design. Three hours, second term; two hours, third term. Merriman's *Roofs and Bridges.* Required of Seniors taking Civil Engineering or Mechanical Engineering.
12. HYDRAULICS.—Methods of measuring flow of streams, laws governing flow in pipes and conduits, determination of water-power in streams, testing of hydraulic motors. Two hours, third term. Text-book, Merriman's *Hydraulics.* Required of Seniors in Engineering.
13. ARCHITECTURE.—Building materials, method of constructing buildings, plans, specifications, bill of materials, estimate of cost, design of buildings. Lectures. Three hours, first term. Required of Sophomores in all courses.
14. ARCHITECTURAL DRAWING.—Drawings from a building already constructed, design of a dwelling, detail and perspective drawings.

Five hours, first term required of all Sophomores. Five hours, second term. Required of Sophomores in Engineering.

15. BOOKKEEPING.—The work in the text-books supplemented by numerous original examples and sets for practice. One hour, second and third terms. Required of all Sophomores.

ENGLISH.

PROFESSOR HILL. ASSISTANT PROFESSOR BUTLER.

In the regular course, English is studied four years. It is the endeavor of this department to give each student such a practical familiarity with the English language that he will speak and write his mother tongue with accuracy and ease and be an intelligent and appreciative interpreter of its literature. The following subjects are offered for 1898–9:

ASSISTANT PROFESSOR BUTLER.

1. INTRODUCTORY RHETORIC. Hill's *Foundations.* Drill on the forms of the language, and the formation of correct and forcible sentences, study of plans in narration and description. Three hours. Required of all Freshmen.

PROFESSOR HILL.

2. COMPOSITION.—Written exercises required weekly. Themes are drawn largely from standard works read in class. Students are taught to plan all work, and every effort is made to develop their constructive and imaginative faculties. One hour. Required of all Freshmen.
3. AMERICAN LITERATURE.—By means of text-books and by parallel reading, students are introduced to what is best in American literature. They study books at first hand. One hour. Required of all Sophomores.
4. RHETORIC.—Genung's *Practical Rhetoric.* Painstaking paragraphic study, study of themes in exposition and argumentation. Many exercises in planning organic parts of essay and oration. Two hours. Required of all Sophomores.
5. LOGIC —Jevons's *Elements* and Gregory's *Practical Logic.* Much attention paid to practical exercises. Three hours, first term. Required of all Juniors.
6. STUDIES IN PROSE.—Hart's *DeQuincey*, Carlyle's *Burns*, Thurber's *Addison's*, Garnett's *English Prose.* In a general way Minto's plan of prose study is followed. Three hours, second term. Required of all Juniors.
7. POETIC STUDY.—Versification, lectures on dramatic art. Dowden's *Primer of Shakspeare*, Thayer's *English Plays*, Moulton's *Shakspeare as a Dramatic Artist*, Tennyson's *Princess*, Genung's *In Memoriam.* Three hours, third term. Required of all Juniors.

8. HISTORY OF ENGLISH LITERATURE.—The development of our literature is studied in its great periods, and through its representative men. Much parallel reading is required. Three hours. Required of all Seniors.

HISTORY.

PRESIDENT HOLLADAY.

Students are given a familiar knowledge of the history of their own country and State, and an outline of general history, both ancient and modern. They are also encouraged and guided in outline readings on special subjects, for which the College Library will afford ample conveniences.

1. AMERICAN HISTORY.—The entire time is devoted to State and United States History. Moore's *History of North Carolina*, Lee's *History of the United States.* One hour. Required of all Freshmen.
2. ANCIENT AND MEDIÆVAL HISTORY.—History of Egypt, Assyria, Phonecia, the Hebrew Nation, Greece and Rome. An introduction to Modern History as far as the time of Charlemagne, comprising a brief view of the Feudal System and the Age of Chivalry. Lectures and Swinton's *Outlines of the World's History.* One hour. Required of all Sophomores.
3. ENGLISH HISTORY.—Abstracts of English History from various sources, and Green's *Short History of the English People.* One hour. Required of all Juniors.
4. ECCLESIASTICAL AND MODERN HISTORY.—Evidences of Scripture, historically considered, and a short study of the history of the nineteenth century. Alexander's *Evidences*, Robertson's *Contemporary History.* One hour. Required of all Seniors.

LATIN, FRENCH AND GERMAN.

PROFESSOR GRESHAM.

1. LATIN.—Collar and Daniell's *First Latin Book, and* Collar's *Via Latina.* Two hours. Elective for Freshmen.
2. GERMAN.—Collar's *Eysenbach German Lessons*, Super's and Van Daell's *German Readers.* Two hours. Elective for Juniors.
3. FRENCH.—Ahn's *French Method:* Castarede's *French Verb;* De Peiffer's *French Pronunciation;* Guerber's *Contes et Legendes.* Two hours. Elective for Seniors.

MILITARY SCIENCE AND TACTICS.

CAPT. JOHN C. GRESHAM, SEVENTH U. S CAVALRY

1. MILITARY TACTICS.—The instruction is in Infantry Drill Regulations, close and extended order, including the School of the Soldier, Company and Battalions, and embraces also recitations or lectures on Military Science. One hour. Required of all Seniors.

CADET OFFICERS.

Major: N. R. Stansel.
First Lieutenant and Adjutant: H. M. Curran.
First Lieutenant and Quartermaster: T. Sugishita.
Sergeant Major: F. C. Lamb.
Principal Musician: A. T. Smith.
Color Sergeant: H. C. Irwin, Jr.
Color Corporals: K. Jones, Jr., and J. H. Birdsong.

RANK.	COMPANY A.	COMPANY B.	COMPANY C.
Captain:	A. R. Kennedy.	A. E. Cohoon.	G. F. Syme.
1st Lieutenant:	Moore Parker.	V. B. Ramseur.	D. F. Asbury.
2d Lieutenant:	B. C. Fennell.	E. G. Smith.	M. Squires.
1st Sergeant:	F. M. Foy.	F. H. Lemly.	R. B. Sykes.
2d Sergeant:	C. L. Mann.	A. S. Lyon.	C. B. Williams.
3d Sergeant:	W. A. Syme.	O'K. W. Myers.	H. A. Huggins.
4th Sergeant:	E. Wood, Jr.	B. H. Finch.	J. E. Porter.
5th Sergeant:	W. L. Peace.	H. J. Smith.	J. E. Niemyer.
1st Corporal:	J. B. Hall, Jr.	G. H. Whiting.	M. M. Harris.
2d Corporal:	J. H. Bunn.	C. E. Moore.	Hugh Ware.
3d Corporal:	I. W. Barber.	J. W. Shore.	R M. Wagstaff.
4th Corporal:	R. H. Morrison.	E. L. Parker.	I. B. Tucker.

NOTE.—The Battalion is organized in three Companies. The uniform of cadet gray costs $16 85.

GENERAL INFORMATION.

EQUIPMENT AND FACILITIES.

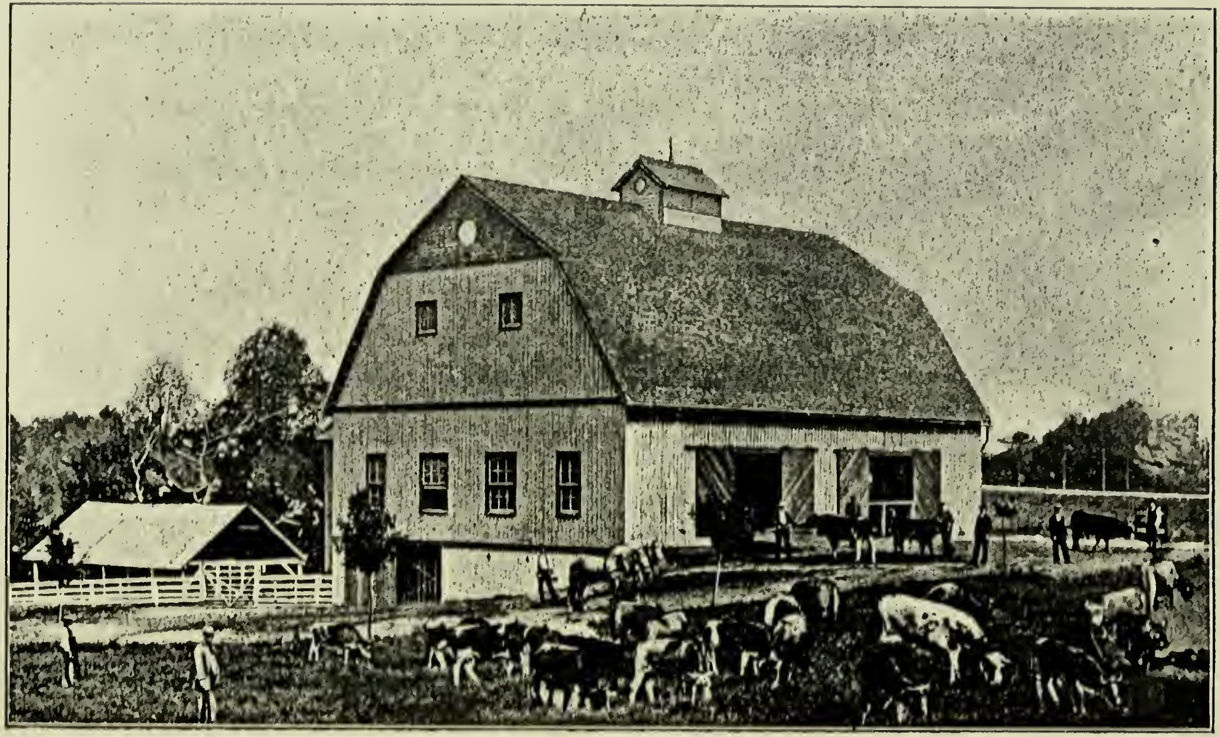
AGRICULTURE.—The equipment of the farm is as follows: Large basement barn. 50 x 72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain bins, etc.; third story, by hay, which is elevated by a Ricker & Montgomery hay-carrier. Just outside the barn are two seventy-ton circular silos. These are connected with a No. 18 Ohio Standard feed and ensilage cutter. The power for cutting is supplied by an eight-horse power Skinner engine. The dairy building contains three rooms and a cellar, besides a large room above, used as an Agricultural Society hall, in which the students' Agricultural Society meets on Saturday nights. The dairy is supplied with a De Laval Separator, Babcock Tester, rectangular churn, butter worker, cheap heating apparatus, etc. The cellar is cemented, and has a cemented trough on one side, through which flows water from a spring situated above the dairy. This is an abundant water supply and serves a useful purpose in ripening cream.

The live stock consists of two grade percheron mares, two mules, a few specimens of pure bred Jersey and Holstein-Friesian cattle, with their grades, and purchased native and grade cows. Poland China swine will be bred pure and from high-class specimens from which breeding stock will be sold as a part of the farm productions.

HORTICULTURE.—There are five communicating green-houses separated by glass partitions so that different night temperatures can be maintained to suit the various purposes to which the houses are devoted. Here is kept a general collection of plants for botanical study and for practice in Floriculture, and in two of the houses winter forcing of vegetables and fruits is carried on, in order that the students may have practice in a line of work that is rapidly assuming commercial importance in the State. The building and green-houses are heated throughout by hot water in the most complete manner.

The entire basement of Primrose Hall is used as a Horticultural Laboratory, where practice in grafting, potting and cross fertilization of plants is constantly going on.

BOTANY.—The Botanical Laboratory is equipped with fourteen compound microscopes of the best American and European makes, a supply of dissection lenses, and chemicals and staining fluids used in histological work. The Herbarium is fairly good, and is being added to by collections and exchanges. The collection of seeds of weeds and cultivated plants is very full, and is an important factor in the acquirement of a knowledge of the appearance of various seeds and fruits. It is intended, as rapidly as possible, to fully equip the Laboratory for advanced work in bacteriology.



COLLEGE BARN.

CHEMISTRY.—The Chemical Laboratories are in the north wing of the Main Building. They are supplied with fume closets, evaporating baths, drying chambers, blast lamps, and extra tile-covered tables. The tables are of yellow heart pine, with oak tops. Each student is provided with one large and two small drawers, and one cupboard, for keeping apparatus. Each working space is provided with gas, distilled water, reagents, and a sink. The Laboratory of Quantitative Analysis will accommodate thirty-two students, sixteen of whom may work simultaneously; and the Laboratory of General Chemistry will accommodate fifty-six students, twenty-eight of whom may work simultaneously.

The Chemical Library contains a carefully-selected list of standard reference books and chemical Journals, which the more advanced students are expected to use very freely.

PHYSICS AND ELECTRICAL ENGINEERING —The recitation rooms and laboratories of the department of Physics and Electrical Engineering are situated in the basement of the principal building. They are spacious, well lighted and provided with a number of solid brick piers built directly on the ground. A dark room for general optical work, and particularly for photometric measurements, has been provided.

The equipment consists of apparatus for illustrating the principles of physical science and for instruction and practice in experiments, measurements and testing. The instruments are all up to-date and well selected, and are particularly efficient for work in electricity.

In the electrical engineering laboratory are one series, one shunt and one compound dynamo and two alternators. Connections have also been made with the electric light plant of the city of Raleigh, enabling more advanced students to do some testing with strong currents and three-phase currents. The electric light plant of the college is also used for commercial testing

The department possesses a very good library of standard books on all branches of physics. The students are referred to them in their work.

MECHANICAL ENGINEERING.—The drawing and recitation rooms, laboratory and shops of the department of Mechanical Engineering are in the Engineering Building. They are of ample size and well lighted and are arranged to be heated either by the exhaust steam from the engine or by live steam. On the first floor are a recitation room, engineering laboratory, machine shop, forge shop, wood-turning shop, and carpenter shop, all fully equipped. On the second floor are the office, two drawing rooms, a recitation room and a library. In the latter various scientific and technical journals are kept on file, the trade circulars of prominent engineering firms, drawings and photographs of machinery, and tabulated data, as well as a large number of engineering books, the use of which is required. In this way modern engineering practice is made in a measure familiar.

The laboratory is provided with the necessary apparatus for making boiler and engine tests and other work of an experimental character. The equipment consists of a two-horse power engine, a ten-horse power engine (both of which were built by the students), a large Ericsson hot-air pumping engine, a machine for testing belt friction, apparatus for making analyses of flue gases, a hydraulic ram, a small water-motor, a Worthington water-meter, friction brakes, weirs, indicators, planimeters, slide rules, thermometers, calorimeters, a Crosby gauge tester, tanks, scales, and other apparatus for making tests

In addition to the laboratory, there is a boiler-house equipped with three thirty-horse power boilers, several pumps, a Sturtevant blower and a jet condenser, all of which are available for experimental purposes.

The shops are equipped as follows:

The carpenter shop contains thirty-four carpenter's benches and all the necessary tools for each bench.

The wood turning shop contains ten 12-inch-swing lathes, a saw and dado machine, a 20-inch planer, a mortising and boring machine, a 30-inch band saw, a large jig saw, a 6-inch sticker, a mitering machine a grind-stone, a steam glue pot, and six benches equipped with iron vises and all the tools necessary for pattern making. Each lathe is fully equipped with turning tools.

The forge shop contains twenty-three forges, each of which is provided with an anvil and forging tools, besides which there is a full equipment of tools for general use in the shop.

The machine shop contains a 16-inch swing Davis Egan lathe with 10-foot bed, a 14 inch Winsor lathe with 3-foot bed, a 13-inch Barnes lathe with 5-foot bed, a 24-inch upright Bickford drill press, a Brown and Sharp Universal Milling Machine with all attachments, a 20-inch by 5-foot Pease planer, a large emery tool grinding machine and six vises with benches and lockers.

The tool-room is well equipped with the necessary hand and pipe tools.

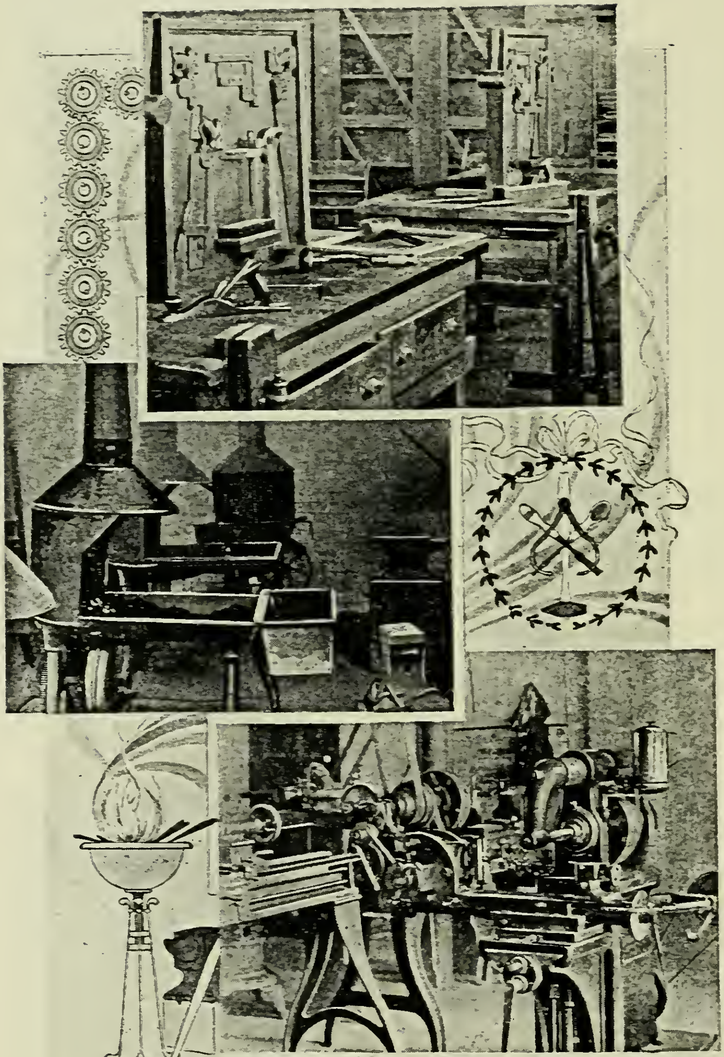
The power for the shops is furnished by a 25-horse-power Woodbury engine. When the shops are running, one of the students has charge of the engine and another of the boilers.

BUILDINGS.

MAIN BUILDING.—This is of brick, with brownstone trimmings, and is 170 by 60 feet; part four stories in height, and the remainder two. The lower floors contain the offices of the President, the Secretary of the Faculty, and the Bursar; the library; several recitation rooms; chemical and physical laboratories; the chapel, and the armory. The upper stories are occupied by students.

In this, as in the other buildings, every precaution has been taken to secure good sanitation. The rooms are all well lighted, well ventilated and conveniently arranged.

ENGINEERING BUILDING.—The Engineering Building is a plain, substantial, two story brick building, with large annex. It contains the laboratories, drawing-rooms and recitation-rooms, and shops of the department.



CARPENTER SHOP. BLACKSMITH SHOP. MACHINE SHOP.

BOILER HOUSE.—This is a single-story brick building, containing boilers, fire-pump, and the machinery connected with the steam-heating plant.

PRIMROSE HALL AND PLANT HOUSES.—The Primrose Hall was named in honor of Mr. W. S. Primrose, the first President of the Board of Trustees. It consists of a brick building 42 by 42 and two stories in height, and a fine range of glass structures attached thereto. The lower or basement floor is occupied by the Horticultural Laboratory and boiler-room. The plant houses are five in number, and are immediately accessible from the Lecture-rooms and Laboratories.

DAIRY AND BARN.—These are frame buildings, of modern design, and carefully planned for the purposes to which they are devoted. The barn is 50 by 72 feet and three stories high; the dairy is 20 by 40 feet and two stories high, the upper story being used as the Agricultural Society hall.

WATAUGA HALL.—This handsome three-story brick building was named in honor of the Watauga Club, which was largely instrumental in securing the establishment of the College. The first floor contains a kitchen, a dining-room and a cloak-room, while in the upper stories are twenty-six rooms used as dormitories.

DORMITORIES.—The College has four brick buildings, used exclusively as dormitories, containing a total of fifty-four rooms.

THE HOSPITAL.—This is a two-story brick building with granite trimmings and slate roof. On the first floor are five rooms a large hall, kitchen, and bath room. The matron's apartments are on this floor. On the upper floor are three hospital wards, two large bath rooms, a linen room, a doctor's office and medicine closet. All of the rooms are provided with large windows and with doors that open to porches. The basement has a hot-water boiler supplying water to baths. The building is lighted by electricity, and is well provided with speaking-tubes. The Hospital wards are provided with enameled beds, single, and the floors are waxed and stained, and all the plastering has soapstone finish and is perfectly sanitary.

WATER SUPPLY.

To meet the need of a pure and plentiful supply of water, the College had six driven wells put in. The depth of these wells is from 55 to 80 feet. The water is pumped for distribution from these wells into three large tanks, and also into one fire reservoir.

LIGHT AND HEAT.

All the buildings are heated with steam, and are lighted with incandescent electric lamps from an electric plant belonging to the College.

DIVISION OF SESSION.

The session is divided into three terms, designated as First, Second and Third Terms.

Although students will be admitted at any time, the best time to enter College is at the beginning of the scholastic year, with the First Term. Students desiring to enter as late as the Third Term will find it impossible to pass the necessary examination, unless they have already attended similar colleges, and had best wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand an examination which will show ample preparation for the class he may wish to enter.

REPORTS.

Reports of deportment and absence from College duties are sent to parents or guardians at the end of every month, and attention is called to any lack of diligence on the part of the student.

Reports of scholarship and deportment are likewise sent at the end of each term. In the grading 100 is the maximum, 90 or over is considered excellent, 80 or over creditable; 60 is the lowest mark that will entitle the student to pass to a higher class. In calculating the average for the term the subjects count equally.

HONORS.

The Punctuality Roll contains the names of students who have not been absent from a single exercise during the year.

The Honor Roll contains the names of those whose average in all studies for the year is 90 or more.

Special Mention is made at graduation of any student whose average in any study during his Junior or Senior year was above 90.

First Distinction is given in each course to the member of the graduating class who makes the highest average for the course—provided such average for the whole course is above 90.

Students attaining first distinction are entitled to deliver commencement orations.

DEGREES.

One Baccalaureate degree is conferred. Upon those who have successfully passed all the examinations in the various studies of the course in Agriculture, the course in Science, or the course in Engineering, the degree of Bachelor of Science is conferred.

The advanced degrees of M. S., M. E., C. E. and E. E. are given in accordance with the requirements specified under the head of Post Graduate Courses. The fee for the Baccalaureate diploma is three dollars; for the diploma accompanying the higher degrees, five dollars is charged.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The various Christian denominations are well represented in the student body, and all unite in a Young Men's Christian Association, which meets with regularity and exerts a beneficial influence throughout the College.

LITERARY SOCIETIES.

There are two literary societies in the College—the Pullen and the Leazar—and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

TECHNICAL SOCIETIES.

The Agricultural Society, Mechanical Society, and Berzelius (Chemical) Society have been organized by the students taking most interest in these special departments of study. Their work consists in reviews of the various technical journals, and in original papers.

ALUMNI ASSOCIATION.

This Association of the College graduates meets annually during Commencement week, and aids in recalling the pleasant memories of College days, as well as keeping its members in active touch with their *Alma Mater*.

Following are the officers of the Association for the current year:
President, J. A. Bizzell, '95, Fayetteville, N. C.
Vice-President, John Howard, '96, Tarboro, N. C.
Sec. and Treas., H. W. Primrose, '97, Raleigh, N. C.
Ch'm'n Exec. Com., Chas. Pearson, '94, Raleigh, N. C.

LIBRARY.

The Library now contains about three thousand books and magazines. Additions are being made to the number every year, and the way now seems clear for rapidly increasing the numbers.

There are reference libraries for the use of students placed in the departments of Agriculture, Horticulture, Chemistry, Physics, English, Mechanical and Civil Engineering.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour. As this labor has to be apportioned among many, no first-year student can hope to make more than two or three dollars a month in this way.

PRIZES.

A prize of ten dollars is given to the Freshman student who, in addition to his class work, earns the largest amount of money by his skill in Agricultural labor outside, and a second prize of five dollars is given to the student who, in addition to his class work, earns the next largest amount of money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and decorum throughout the College, though the methods of securing both will appeal to the self respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities, proportional demerit marks will be noted on the report, sent to parents or guardians monthly and at the end of each term. It is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to a strict account for them, since if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark.

Students who persist in grave misconduct will not be permitted to remain in the college. The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave. There is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS.—Applicants for the Freshman Class must be at least fifteen years old, and must, if required, furnish satisfactory evidence of good moral character. They must pass satisfactory examinations on the following subjects: 1st. Arithmetic through common and decimal fractions. The examination will cover the ground laid down in such standard arithmetics as Wentworth or Milne. 2d. In English, applicants will be examined on the elements of the language—the examination including the matter treated in such books as Reed and Kellogg's First Lessons, or Harvey's Grammar. 3d. In Geography the applicant is expected to be familiar with work of the grade of Maury's Manual. 4th. In History the examination will be confined to the main events in American History.

PAY AND COUNTY STUDENTS.—The law provides for two kinds of students—pay and county students. There is no limit to the number of pay students. They pay for tuition and for their lodging in the College buildings, while the county students are entitled to tuition and to their lodging in the College buildings free of cost. The expenses of a pay student are only $30 a year more than those of a county student. Each county is entitled to as many county students as it has members in the House of of Representatives. Young men desiring to enter as county students must apply to the Board of County Commissioners, who alone have auauthority to make such appointments, as the College authorities cannot make them.

ADMISSION.

The County Supervisors of Education are usually willing to conduct the examination of all applicants for admission. This examination will be held at the county-seats on the second Thursdays of July and September, or at such times as will suit the examiner.

All young men, however, wishing to enter, can be examined at the College on the day before its opening, if they did not pass the examination at the county-seats. These will be held at the following hours: Mathematics, 9 A. M.; English, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M Examinations for conditioned students and for applicants for advanced classes will be held also on these days.

Students, after arriving in Raleigh, must report at once to the President of the College for a permit for examination or for registration.

Students who have passed the examinations for admission, or for advancement to a higher class, will report to the Secretary of the Faculty for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

No student in this College will be allowed to join any Military organization, and no applicant for admission belonging to any Military organization shall be allowed to enter until he shall have filed with the Registrar a certificate of withdrawal from active membership in such organization.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On the Sunday morning, students must attend the church service in Raleigh, each student being allowed to select the church.

Each occupant of a dormitory is expected to keep his room in good order and ready for inspection at any time.

CLOTHING, ETC.—Each student is required to have one suit of uniform.

Each student living in the College must bring with him a change of sheets and pillow-cases, four towels and two counterpanes, plainly marked.

TUITION.

Tuition is $20 per scholastic year. County appointees are entitled to tuition and lodging *free of cost.* Post-graduates are excused from tuition fees.

BOARD AND LODGING.

Board and lodging are furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month, and lodging as below stated.

Board is payable monthly, in advance, and where any student fails to pay promptly on the 1st, notice will be sent to the parent or guardian; and in case payment is not made by the 10th, the student will be dropped from College.

COLLEGE CHARGES PER SESSION OF NINE MONTHS.

1. Tuition	$ 20 00
2. Lodging (including room, furniture, bedding, etc.)	10 00
3. Incidental fee (in advance)	1 00
4. Medical fee and medicine (one-half upon entrance, remainder on January 15)	4 00
5. Fuel and lights for entire session	12 50
6. Board, eight dollars per month, in advance	72 00
	$119 50

It will be seen that the aggregate charge for tuition, lodging, and fuel and lights is $42.50. This must be paid as follows, viz., for first eight months, at beginning of each month, $4.75; on May 1, ninth month, $4.50.

The military uniform suit costs $16.85, and must be paid for when furnished.

Besides board, incidental fee and medical fee, students holding county appointments pay for fuel and lights only, as follows, viz., for first eight months, at beginning of each month, $1.40; on May 1, ninth month, $1.30.

Board should be paid to the Steward of the College, fees and dues to the Bursar.

Please bear in mind that ALL PAYMENTS MUST BE MADE IN ADVANCE. Failure to comply with this requirement will subject a student to dismissal.

Each student must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year.

All students must furnish their own books, stationery, and drawing instruments and materials.

STUDENTS.

POST-GRADUATES (15).

Name.	*Post Office.*	*County.*	*Major Course.*
James Adrian Bizzell,	Dunn,	Harnett,	Chemistry.
B. S. '95, N. C. College of Agriculture and Mechanic Arts.			
John William Carroll,	West Raleigh,	Wake,	Agriculture.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Charles Edward Clark,	Charlotte.	Mecklenburg,	Agriculture.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Wm. Alex. Graham Clark,	Raleigh,	Wake,	Civil Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Charles Duffy Francks,	Richlands,	Onslow,	Mathematics.
B. E. '93, N. C. College of Agriculture and Mechanic Arts.			
James Dunn Hufham, Jr.,	Henderson,	Vance,	Chemistry.
A. B. '96, Wake Forest College.			
Chris. Miller Hughes,	Raleigh,	Wake,	Chemistry.
B. E. '95, N. C. College of Agriculture and Mechanic Arts.			
Clyde Bennett Kendall,	Polkton,	Anson,	Civil Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Sidney Gustavus Kennedy,	Coahoma,	Lenoir,	Agriculture.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Robt. Donnell Patterson,	Durham,	Durham,	Agriculture.
B. S. '94, N. C. College of Agriculture and Mechanic Arts.			
Hugh Williams Primrose,	Raleigh,	Wake,	Chemistry.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Thomas Jehu Smithwick,	Sans Souci,	Bertie,	Mech. Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
J. Lea Watson,	Raleigh,	Wake,	Mech. Eng.
B. S. '97. N. C. College of Agriculture and Mechanic Arts.			
Levi Romulus Whitted,	Stainback,	Alamance,	Elect. Eng.
B. S. '96, N. C. College of Agriculture and Mechanic Arts.			
Bradley Jewett Wootten,	Wilmington,	New Hanover,	Agriculture.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			

CLASS OF 1898—SENIORS (16).

Name.	*Post Office.*	*County.*
Dorsey Frost Asbury,	Chambers,	Burke.
Sidney Hamilton Beck,	Table Rock,	Burke.
Anson Elikem Cohoon,	Elizabeth City,	Pasquotank.
Hugh McCollum Curran,	Westboro,	Mass.
Benjamin Carey Fennell,	Raleigh,	Wake.
Alpheus Rountree Kennedy,	Coahoma,	Lenoir.

Name.	*Post Office.*	*County.*
Frederick Creecy Lamb,	Elizabeth City,	Pasquotank.
Edwin Bentley Owen,	Michael,	Davidson.
Moore Parker,	Raleigh,	Wake.
Vernon Badham Ramseur,	Hendersonville,	Henderson.
Numa Reid Stansel,	Allenton,	Robeson.
Teisaku Sugishita,	Kokufu, Hida,	Japan.
George Frederick Syme,	Raleigh,	Wake.
Dalma Ozark Uzzle,	Wilson's Mills,	Johnston.

IRREGULAR (2).

Fred Charles Doyle,	Raleigh,	Wake.
Mark Squires,	Lenoir,	Caldwell.

CLASS OF 1899—JUNIORS (30).

Wm. Davidson Alexander, Jr.,	Croft,	Mecklenburg.
Ira Wilson Barber,	Culler,	Stokes.
John Henderson Birdsong,	Raleigh,	Wake.
Francis Marion Foy,	Scott's Hill,	Pender.
Kimbrough Jones, Jr.,	Raleigh,	Wake.
Floy Lambe,	Durham,	Durham.
Fred Henry Lemly,	Salem,	Forsyth.
Albert Sidney Lyon,	Wilton,	Granville.
Edward Herbert Maddrey,	Seaboard,	Northampton.
Carroll Lamb Mann,	Englehard,	Hyde.
O'Kelly William Myers,	Washington,	Beaufort.
Eugene LeRoy Parker,	Raleigh,	Wake.
Eugene Gray Person,	Louisburg,	Franklin.
Charles Shober Siewers,	Salem,	Forsyth.
Frederick Erastus Sloan,	Statesville,	Iredell.
Alexis Preston Seeele,	Statesville,	Iredell.
Ralph Bingham Sykes,	Rock Spring,	Orange.
William Anderson Syme,	Raleigh,	Wake
Irving Burchard Tucker,	Fair Bluff,	Columbus.
Darius Samuel Waitt,	Raleigh,	Wake.
Hugh Ware,	King's Mountain,	Cleveland.
Claude Burgess Williams,	Elizabeth City.	Pasquotank.

IRREGULAR (8).

Samuel Young Bryson,	Hendersonville,	Henderson.
John Fennell,	Raleigh,	Wake.
Fred. Griffin Kelly,	Raleigh,	Wake.
Jacob Rankin Parks, Jr.,	Cape,	Randolph.
Andrew Thomas Smith,	Oxford,	Granville.
Edward Gardner Smith,	Garden City,	L'g Isl'd, N.Y.
James Spencer Spainhour,	Lenoir,	Caldwell.
William James Webb,	Stem,	Granville.

CLASS OF 1900—SOPHOMORES (58).

Name.	*Post Office.*	*County.*
Kemp Alexander,	Harrisburg,	Cabarrus.
Elizabeth Albert Anderson,	Campinos,	Brazil.
Washington E. Bateman,	Columbia,	Tyrrell.
Leslie Grahan Berry,	Washington,	Beaufort.
Carney John Bryan,	Washington,	Beaufort.
James Harry Bunn,	Henderson,	Vance.
Aaron Headen Bynum,	Pittsboro,	Chatham.
Paul Collins,	Raleigh,	Wake.
Henry Ferguson,	Neuse,	Wake.
Brantley Hilliard Finch,	Lexington,	Davidson.
Gordon Mickel Finger,	Charlotte,	Mecklenburg.
Frank Garvin,	Newton,	Catawba.
Bertie Mason Graves,	Selma,	Johnston.
James Baker Hall, Jr.,	Scotland Neck,	Halifax.
Samuel Merrill Hanff,	Raleigh,	Wake.
George Roland Harrell,	Kelford,	Bertie.
Marion Morgan Harris,	Fairfield,	Hyde.
Wm. Theophelus Hinton,	Greensboro,	Guilford.
Henry Allen Huggins,	Wilmington,	New Hanover.
Hamner Carson Irwin, Jr.,	Charlotte,	Mecklenburg.
Garland Jones, Jr.,	Raleigh,	Wake.
Joseph Bingham Kinsey,	Wilson,	Wilson.
Robert Graham Knox,	Cleveland,	Rowan.
John Wolfe Kuykendal,	Davenport,	Mecklenburg.
Cornelius Maglenn,	Raleigh,	Wake.
Louis Henry Mann,	Midddleton,	Hyde.
Charles Elbert Moore,	Moyton,	Wilson.
Joseph Carroll Moore,	Globe,	Caldwell.
Robert Hall Morrison,	Mariposa,	Lincoln.
John Ernest Niemyer,	Raleigh,	Wake.
William Leak Peace,	Oxford,	Granville.
Junius Edward Porter,	Emerson,	Bladen.
Roger Francis Richardson,	Selma,	Johnston.
William Edwin Rose,	Statesville,	Iredell.
Floyd De Ross,	Charlotte,	Mecklenburg.
Ira Obed Schaub,	Culler,	Stokes.
John Wade Shore,	Boonville,	Yadkin.
Carie Erastus Sloan,	Taylorsville,	Alexander.
William Turner Smith,	Godwin,	Cumberland.
George Edward Sutton,	LaGrange,	Lenoir.
John Leavy Swindell,	Raleigh,	Wake.
John Thomas Talton,	Smithfield,	Johnston.
Cecil Wilborn Taylor,	Newbern,	Craven.
Thomas Fuller Terrell,	Raleigh,	Wake.

Name.	*Post Office.*	*County.*
THOMAS ALBERT UZZELL,	LaGrange,	Lenoir.
SIMSON ALEXANDER VEST,	Tobaccoville,	Forsyth.
ROSCOE MARVIN WAGSTAFF,	Olive Hill,	Person.
DAVID EVANS WHARTON,	Washington,	Beaufort.
WILLIE EDGAR WILLIAMS,	Reidsville,	Rockingham.
EDWARD WOOD, JR.,	Edenton,	Chowan.
BENJAMIN VAIDEN WRIGHT,	Coharie,	Sampson.

IRREGULAR (7).

ROBERT LINN BERNHARDT,	Salisbury,	Rowan.
ZEBULON VANCE BLOUNT,	Faison,	Duplin.
FRANK SHEPHERD FAISON, JR.,	Raleigh,	Wake.
HENRY JUDSON SMITH,	Itam,	Rutherford.
ZEBULON VANCE SNIPES,	Granthams,	Wayne.
JAKE STIREWADT,	Statesville,	Iredell.
GAITHER HALL WHITING,	Raleigh,	Wake.

CLASS OF 1901—FRESHMEN (107).

CHARLES NICK ALLEN, JR.,	Auburn,	Wake.
WILLIAM AUGUSTUS ASHLEY,	Raleigh,	Wake.
ALLISON ALJOURNAL AYCOCK,	Fremont,	Wayne.
DAVID WORTH BAGLEY,	Raleigh,	Wake.
FLETCHER HESS BARNHARDT,	Norwood,	Stanley.
EDWARD WALLETE BLEDSOE, JR.,	Raleigh,	Wake.
FRED WILHELM BONITZ,	Wilmington,	New Hanover.
ZOLLY MOSBY BOWDEN,	Redland,	Davie.
WILLIAM DUNN BRIGGS,	Raleigh,	Wake.
FRED. OUTLAW HENDERSON BRYAN,	Raleigh,	Wake.
JOHNNIE JAMES BUFFALOE,	Jackson,	Northampton.
JOHN OSCAR BUSICK,	Madison,	Rockingham.
WILLIAM PESCUD CRAIG,	Marion,	McDowell.
WILLIAM LOIS CRAVEN,	Concord,	Cabarrus.
JAMES SKINNER DAGGETT,	Wilmington,	New Hanover.
JOHN WITHERSPOON DANIEL,	Raleigh,	Wake.
JOHN NEAL DAVIS,	Louisburg,	Franklin.
LLOYD CONRAD DAVIS,	Falling Creek,	Lenoir.
ALBERT MAGRUDER DICKINSON,	Fremont,	Wayne.
ERROL PATRICK DIXON,	Hookerton,	Greene.
DAVID CLARENCE EMBLER,	Owenby,	Buncombe.
HARRIS AUGUSTUS FETNER,	Raleigh,	Wake.
ARTHUR HYNES FLEMING,	Louisburg,	Franklin.
CLARENCE ALFRED FLOWERS,	Vandemere,	Pamlico.
DAVID IRA FORT, JR.,	Raleigh,	Wake.
JEFFERSON DOZIER FOY,	Scott's Hill,	Pender.
WILLIAM JAMES GATEWOOD,	Gatewood,	Caswell.

Name.	*Post Office.*	*County.*
Leslie Gibbs,	Middleton,	Hyde.
William Ruffin Goley,	Graham,	Alamance.
Howard Greer,	Washington,	D. C.
Charles Bennett Griffin,	Lewiston,	Bertie.
Lee Griffin,	Monroe,	Union.
Charles Upchurch Harris,	Raleigh,	Wake.
Robert Nixon Harris,	Wilmington,	New Hanover.
Weldon Edwards Hawkins,	Ridgeway,	Warren.
Thomas Jason Herring,	Kinston,	Lenoir.
William Michael Hoke,	Lincolnton,	Lincoln.
Louis Calvin Holman,	Raleigh,	Wake.
Benjamin Oliver Hood,	Asheville,	Buncombe.
Robert Nisbet Hunter,	Cowansford,	Mecklenburg.
William Turner Ireland,	Faison,	Duplin.
Gilmer Joyce,	Mt. Airy,	Surry.
Martin Kellogg,	Sunbury,	Gates.
William Robert Knight,	Mildred,	Edgecombe.
Robert Lee Lambeth,	Thomasville,	Davidson.
Romulus Edward Lassiter,	Winston,	Forsyth.
Jesse James Liles,	Wadesboro,	Anson.
Lewis Omer Lougee,	Raleigh,	Wake.
Colon Reid Love,	Manndale,	Chatham.
Robert Lee Lumsden,	Raleigh,	Wake.
Theodore Hinsdale MacRae,	Fayetteville,	Cumberland.
Jonathan Andrew Massey,	Smithfield,	Johnston.
John Luther McKinnon,	Laurinburg,	Richmond.
James Leslie McNair,	Wilmington,	New Hanover.
Noah Palmer Mewborne,	Raleigh,	Wake.
Frank Faison Middleton,	Greensboro,	Guilford.
John Kelly Miller,	Winfall,	Perquimans.
Fred Earl Mitchell,	Raleigh,	Wake.
Lemuel Octave Mosely,	Kinston,	Lenoir.
Zebulon Vance Murphrey,	Kinston,	Lenoir.
William Alfred Myatt, Jr.,	Raleigh,	Wake.
Charles Arthur Nichols,	Barnard,	Madison.
Leslie Monteiro Norman,	Richmond,	Va.
William Franklin Pate,	Snow Hill,	Greene.
Boyd Charles Pattee,	Singer Glen,	Va.
John Ellis Pearson,	Saluda,	Polk.
Souvereign Pascal Purvis,	Hamilton,	Martin.
Isaac Newton Sanders,	Swansboro,	Onslow.
Simmons Whitaker Sebrell,	Wilmington,	New Hanover.
Henry Hampton Sessoms,	Stedman,	Cumberland.
James Casten Skinner,	Hertford,	Perquimans.
Alexander Thompson Sloan,	Winston,	Forsyth.
William Sidney Smethurst,	Raleigh,	Wake.

Name.	*Post Office.*	*County.*
EDWARD OSCAR SMITH,	Crystal Hill,	Va.
FRANK PATILLO SMITH,	Guilford College,	Guilford.
JAMES SOUTHERLAND,	Goldsboro,	Wayne.
MARVIN HAMILTON SPARGER,	Mt. Airy,	Surry.
BEVERLY NATH. SULLIVAN,	Winston,	Forsyth.
RICHARD EPPIE TIMBERLAKE,	Youngsville,	Franklin.
GEORGE TUCKER,	Kinston,	Lenoir.
ARCHIE MUSGRAVE VAUGHN,	Elizabeth City,	Pasquotank.
CHARLES AUGUSTUS WATSON,	Raleigh,	Wake.
JOHN SEATON WELCH,	Apex,	Wake.
ROBERT NOBLE WELFARE,	Lexington,	Davidson.
GGORGE WHITEHEAD,	Belvidere,	Perquimans.
JOHN SMALLWOOD WHITLEY,	Williamston,	Martin.
NEEDHAM BROUGHTON WILSON,	Raleigh,	Wake.
JOSEPH ROBERT WINSTEAD,	Wilson,	Wilson.
DEMPSEY EUGENE WOOD,	Falling Creek,	Lenoir.

IRREGULAR (18).

ERNEST NIEFER BASHFORD,	Raleigh,	Wake.
CHARLES HINTON BELVIN,	Raleigh,	Wake.
WILBUR CARTER COOKE,	Louisburg,	Franklin.
JUNIUS DAVIS, JR.,	Wilmington,	New Hanover.
DERWARD DAWSON,	Kinston,	Lenoir.
WM. DOLLISON FAUCETTE,	Halifax,	Halifax.
ALFRED GALLOWAY HANKINS, JR.,	Wilmington,	New Hanover.
CENTENNIAL HILL KING,	Raleigh,	Wake.
CARL LOUIS KUHL,	Wilmington,	New Hanover.
EDGAR LOOPS,	Kinston,	Lenoir.
JOHN MCCLAMROCH,	Mocksville,	Davie.
WILLIAM LEON PARKS,	Seven Springs,	Wayne.
GEORGE WASHINGTON SHEPARD,	Topsail,	Pender.
PERRY AUSTIN SLOAN,	Winston,	Forsyth.
ROBERT GOODLO SLOAN,	Winston.	Forsyth.
THOMAS LEE SPENCER,	Columbia,	Tyrrell.
REUBEN JONES WALKER,	Rutherfordton,	Rutherford.
YASOTARO YEZOYE,	Tokyo,	Japan.

SUB-FRESHMAN CLASS (29).

THOMAS JACKSON ARNOLD,	Beverly,	W. Va.
JOSEPH WILLIAM BAILEY,	Raleigh,	Wake.
JOHN BEALMEAR BRIGGS,	Raleigh,	Wake.
ALBERT WORTH BRYAN,	Winnie,	Bladen.
WILLIAM WIGGINS CASERLEY,	Warrenton,	Warren.
HENRY GRADY DORSETTE,	St. Lawrence,	Chatham.
RICHARD HARLIE EAVES,	Atlanta,	Ga.

Name.	*Post Office.*	*County.*
PAUL FLETCHER FAISON,	Raleigh,	Wake.
DAVID ANDERSON FAWCETTE,	Oxford,	Granville.
HECTOR GREEN,	Lillington,	Harnett.
EDWARD HILL HARDY,	Coleraine,	Bertie.
JULIAN HESTER,	Creedmoor,	Granville.
CLAUDE JOSEPH LOGAN,	Brittain,	Rutherford.
WADE HAMPTON MCCOTTER,	Grifton,	Pitt.
EDWIN BORDEN MCKEE,	Raleigh,	Wake.
WILLIAM ROBERT MCRACKAN,	Vineland,	Columbus.
WILLIAM HERMAN MORTON,	Kinston.	Lenoir.
JOHN ADOLPHUS B. NUNN,	Newbern,	Craven.
JAMES HOLLISTER POTTER,	Beaufort,	Carteret.
THOMAS RICHARD PURNELL,	Raleigh,	Wake.
HOWARD HARVEY RADFORD,	Smithfield,	Johnston.
FRANK BUCHANAN SIMPSON,	Raleigh,	Wake.
MARVIN GREEN SMITH,	Raleigh,	Wake.
STANLEY GORDON SMITH,	Raleigh,	Wake.
PERCY DANIEL THOMAS,	Statesville,	Iredell.
WRIGHT ELBERT UPCHURCH,	Raleigh,	Wake.
WILLIAM MANLEY WATSON,	Raleigh,	Wake.
KENNETH RAYNOR WOODWARD,	Edenton,	Chowan.
ROBERT WEBB WYNNE,	Raleigh,	Wake.

SUMMARY:

Post-Graduates	15
Seniors	16
Juniors...............	30
Sophomores	58
Freshmen	107
Sub-Freshmen	29
Total..................	255

COMMENCEMENT 1897.

BACCALAUREATE SERMON

BY

THE REV. P. H. HOGE, D. D., WILMINGTON, N. C.

ANNUAL ADDRESS

BY

PREST. ROBT. CRAWFORD, WILLIAMSON SCHOOL, PHILADELPHIA, PA.

GRADUATES AND SUBJECTS OF THESES.

With the Degree of Batchelor of Science (B. S.).

Name.	*Post Office.*	*County.*
Joseph Samuel Buffaloe (A),	Rand's Mills,	Wake.
Humus and its Relation to the Fertility of the Soil.		
John William Carroll (A),	West Raleigh,	Wake.
Farm Drainage.		
Charles Edward Clark (A),	Charlotte,	Mecklenburg.
The Flora of the College Farm.		
Nicholas Louis Gibbon (E),	Derita,	Mecklenburg.
An Experimental Determination of the Value of Radiating Surface for Heating Buildings.		
Cebern Dodd Harris (S),	Raleigh,	Wake.
A Chemical Examination of the Water Supply of the N. C. College of Agriculture and Mechanic Arts.		
Jere Eustis Highsmith (A),	Parkersburg,	Sampson.
The Practicability of Dehorning Cattle.		
Clyde Bennett Kendall (E),	Polkton,	Anson.
Design of a Pratt Bridge Truss.		
Sidney Gustavus Kennedy (A),	Coahoma,	Lenoir.
The Tobacco Industry of North Carolina.		
Joseph Lawrence Knight (A),	Mildred,	Edgecombe.
Methods for the Control of Germination of Seeds.		
Walter Jones McLendon, Jr. (E),	Wadesboro.	Anson.
Design of a five hundred horse-power Boiler Plant.		
Repton Hall Merritt (E),	Wilmington,	New Hanover.
Design of a Pratt Bridge Truss.		

NOTE.—A, indicates Course in Agriculture; E. in Engineering; and S, in Science.

Wm. Alexander Graham Clark (E),	Raleigh,	Wake.
Design of a Hospital Building for the College.		

Name.	*Post Office.*	*County.*
ALBERT HICKS OLIVER (A), Effect of Cotton-seed Hulls on the Production of Milk and Butter.	Mt. Olive,	Wayne.
HUGH WILLIAMS PRIMROSE (S), Reactions between Calcium, Hydroxide and the Phosphates under varying conditions.	Raleigh,	Wake.
WILLIS HUNTER SANDERS (E), Design of a five hundred horse-power Boiler Plant.	Dunn,	Harnett.
THOMAS JEHU SMITHWICK (S), Determination of the Latitude and Longitude and true Meridian of the N. C. College of Agriculture and Mechanic Arts.	Sans Souci,	Wake.
J. LEA WATSON (E), Design of a Lighting Plant for the N. C. College of Agriculture and Mechanic Arts.	Raleigh,	Bertie.
BRADLEY JEWETT WOOTTEN (A), Tile Drainage.	Wilmington,	New Hanover.

With the Degree of Civil Engineer (C. E.).

JOHN ISHAM BLOUNT, B. E., The Use of Curves in the Solution of Engineering Problems.	Faison,	Sampson.
DAVID CLARK, B. E., M. E., A Birds-Eye View of the College Grounds.	Raleigh,	Wake.
LEVI ROMULUS WHITTED, B. S., Determination of the Latitude and Longitude and the true Meridian of the N. C. College of Agriculture and Mechanic Arts.	Hambola,	Alamance.

MEMBERS OF THE GRADUATING CLASS ENTITLED TO SPECIAL MENTION.

J. S. BUFFALOE, Agriculture and Chemistry.
J. W CARROLL, Agriculture.
C. E. CLARK, Agriculture.
W. A. G. CLARK, English and History.
N. L. GIBBON, Drawing.
J. E. HIGHSMITH, Agriculture.
C. B. KENDALL, Shop.
S. G. KENNEDY, Agriculture, Horticulture and History.
J. L. KNIGHT, Agriculture and Horticulture.
W. J. MCLENDON, Shop.
R. H. MERRITT, Shop and Drawing.
A. H. OLIVER, Agriculture and Horticulture.
H. W. PRIMROSE, Chemistry, English and History.
W. H. SANDERS, Shop.
T. J. SMITHWICK, Shop.
B. J. WOOTTEN, Agriculture.

HONOR ROLL.

SENIOR CLASS.

Name,	*Post Office.*	*County*
Hugh Williams Primrose,	Raleigh,	Wake.
Wm. Alexander Graham Clark,	Raleigh.	Wake.
Sidney Gustavus Kennedy,	Coahoma,	Lenoir.

JUNIOR CLASS.

Christopher Miller Hughes,	Raleigh,	Wake.
Hugh McCollum Curran,	Westboro,	Mass.
Numa Reed Stansel,	Allenton,	Robeson.

SOPHOMORE CLASS.

Frederic Erastus Sloan,	Statesville,	Iredell.

PUNCTUALITY ROLL.

SOPHOMORE CLASS.

Ralph Bingham Sykes,	Rock Spring,	Orange.

FRESHMAN CLASS.

Elizabeth Albert Anderson,	Campinos,	Brazil.
George Roland Harrell,	Kelford,	Bertie.

FRESHMAN PRIZES IN AGRICULTURE.

TEN DOLLAR PRIZE.

Zebulon Vance Snipes,	Granthams,	Wayne.

FIVE DOLLAR PRIZE.

James Harry Bunn,	Henderson,	Vance.

REGISTER OF ALUMNI.

CLASS OF 1893.

Name.	*Degree.*	*Address.*
Robert Wilson Allen,	B. E.,	Preston, Md.
Prof. Mathematics. Preston Normal School.		
Samuel Erson Asbury,	B. S.,	Raleigh, N. C.
Henry Emil Bonitz,	B. E.,	Wilmington, N. C.
Architect and Superintendent: Trustee N. C. College of Agriculture and and Mechanic Arts.		
Frank Fuller Floyd,	B. E.,	Knoxville, Tenn.
Supt. Linotype Machines for the *Knoxville Sentinel.*		
Charles Duffy Francks,	B. E.,	Raleigh, N. C.
Instructor in Mathematics and Civil Engineering N. C. College of Agriculture and Mechanic Arts.		
Edward Moore Gibbon,	B. E.,	Salem, N. C.
With the Salem Iron Works.		
George Pender Gray,	B. S.,	Silver Lake, Fla.
Farm Manager.		
Charles Bolling Holladay,	B. E.,	Richmond, Va.
With Jno. I. Williams & Sons.		
William McNeill Lytch,	B. E.,	( ).
Walter Jerome Mathews,	B. E.,	Goldsboro, N. C.
Engineer for the Eastern N. C. Asylum for the Insane.		
James William McKay,	B. E.,	Black Mountain, N. C.
Civil Engineer and County Surveyor.		
Frank Theophilus Meacham,	B. S.,	Biltmore, N. C.
Superintendent of Stock at Biltmore Farm.		
Carl DeWitt Sellars,	B. E.,	Altamaha, N. C.
Engineer for Altamaha Cotton Mills.		
Charles Edgar Seymore,	B. S.,	Louisburg, N. C.
Farmer.		
Buxton Williams Thorne,	B. E.,	------------- , Miss.
Book-keeper.		
William Harrison Turner,	B. E.,	Salem, N. C.
With Wachovia Mills (F. & H. Fries).		
Charles Burgess Williams,	B. S.,	Raleigh, N. C.
Assistant Chemist N. C. Agricultural Experiment Station.		
Louis Thomas Yarbrough,	B. E.,	Raleigh, N. C.
With Southern Bell Telephone Co.		
Samuel Marvin Young,	B. E.,	Raleigh, N. C.
With Julius Lewis Hardware Co.		

CLASS OF 1894.

Name.	*Degree.*	*Address.*	
Charles Edward Corpening,	B. E.,	Lenoir, N. C.	Farmer.
David Cox, Jr.,	B. E.,	Hertford, N. C.	Architect and Engineer.
Robt. Donnell Patterson, Jr.,	B. S.,	Raleigh, N. C.	Farmer and Post-Graduate Student N. C. College of Agriculture and Mechanic Arts.
Charles Pearson,	B. E.,	Raleigh, N. C.	Architect.
Zebbie George Rogers,	B. E.,	Danville, Va.	Secretary and Treasurer.
John Hyer Sanders,	B. E.,	Choccowinity, N. C.	Locomotive Engineer for Lumber Co.
Benjamin Franklin Walton,	B. S.,	Millbrook, N. C.	Farmer.
John McCamy Wilson,	B. E.,	Salem, N. C.	With Salem Iron Works.

Frank Theophilus Meacham,	M. S.,	Biltmore, N. C.	See Class of 1893.

CLASS OF 1895.

Thomas Martin Ashe,	B. E.,	Raleigh, N. C.	Traveling Salesman R. F. Morris Tobacco Co.
James Adrian Bizzell,	B. S.,	Raleigh, N. C.	Instructor in Chemistry, N. C. College of Agriculture and Mechanic Arts.
John Isham Blount,	B. E.,	Ithaca, N. Y.	Student Cornell University.
James Washington Brawley,	B. S.,	Mooresville, N. C.	Farmer.
Walter Austin Bullock,	B. S.,	Bainbridge, Ga.	Manager Brooks Dairy Farm.
David Clark (M. E., Cornell Univ.),	B. E.,	Raleigh, N. C.	Bat. Adjt. 2d Regiment N. C. Volunteers, U. S. A.
Geo. Washington Corbett, Jr.,	B. E.,	Raleigh, N. C.	Engineer Raleigh Electric Co.
Edwin Speight Darden,	B. S.,	Speight's Bridge, N.C.	Farmer.
William Kearney Davis, Jr.,	B. E.,	Salem, N. C.	Superintendent Southside Manufacturing Co.
Joseph Charles Dey,	B. S.,	Norfolk, Va.	With Williams Bros., Commission Merchants.
Lee Borden Ennett,	B. S.,	Cedar Point, N. C.	Farmer.
Isaac Henry Foust,	B. E.,	Charlotte, N. C.	Farmer.

Name.	*Degree.*	*Address.*
Charles Wyllis Gold, Business Manager Wilson *Times* and Dairy Farmer.	B. S.,	Wilson, N. C.
William Henry Harriss, Draughtsman for the D. A. Tompkins Co.	B. E.,	Charlotte, N. C.
Christopher Miller Hughes, Clerk N. C. Agricultural Experiment Station.	B. E.,	Raleigh, N. C.
Malcolm Beall Hunter, With Ada Cotton Mills.	B. E.,	Charlotte, N. C.
Sam'l Christopher McKeown, Superintendent Machine Shops.	B. E.,	Cornwell, S. C.
Mann Cabe Patterson, With Salem Iron Works.	B. E.,	Salem, N. C.
Abram Hinman Prince, Superintendent of Farm, Oxford Orphan Asylum.	B. S.,	Oxford, N. C.
Victor Vashti Privott, With Lumber Company.	B. E.,	Edenton, N. C.
Howard Wiswall, Jr., United States Coast and Geodetic Survey.	B. E.,	Washington, N. C.
Charles Garrett Yarbrough, With Westinghouse Electric Company.	B. E.,	Pittsburg, Pa.

Charles Marcellus Pritchett, Instructor in Drawing and Shop Work, N. C. College of Agriculture and Mechanic Arts.	M. E.,	Raleigh, N. C.

CLASS OF 1896.

Daniel Allen, With S. C. Pool's Shoe Store.	B. S.,	Raleigh, N. C.
George Stronach Fraps, Student of Chemistry and Honorary Hopkins Scholar, John Hopkins University.	B. S.,	Baltimore, Md.
Marion Jackson Green, Assistant in Victor High School.	B. S.,	Victor, N. C.
John Howard, 2d Lieutenant 2d Regiment N. C. Volunteers, U. S. A.	B. S.,	Tarboro, N. C.
William Colbert Jackson, Farmer	B. S.,	Winterville, N. C.
Robert Graham Mewborne, Assistant Chemist Virginia-Carolina Chemical Co.	B. S.,	Richmond, Va.
Levi Romulus Whitted, Assistant Inspector of Dredging.	B. S.,	Port Royal, S. C.
Henry Lloyd Williams,	B. S.,	Gatesville, N. C.

Samuel Erson Asbury, See Class of 1893.	M. S.,	Raleigh, N. C.
Charles Burgess Williams, See Class of 1893.	M. S.,	Raleigh, N. C.

Name.	*Degree.*	*Address.*
DAVID CLARK,	M. E.,	Raleigh, N. C.
	See Class of 1895.	
WILLIAM HENRY HARRISS,	M. E.,	Charlotte, N. C.
	See Class of 1895.	
CHAS. MARCELLUS PRITCHETT,	C. E.,	Raleigh, N. C.
	See Class of 1895.	

CLASS OF 1897.

JOSEPH SAMUEL BUFFALOE,	B. S.,	Nashville, Tenn.
	Medical Student.	
JOHN WILLIAM CARROLL,	B. S.,	Raleigh, N. C.
	Dairyman N. C. College of Agriculture and Mechanic Arts.	
CHARLES EDWARD CLARK,	B. S.,	So'th Washi'gt'n, N. C.
	Truck Farmer.	
WM. ALEXANDER GRAHAM CLARK,	B. S.,	Raleigh, N. C.
	Assistant in Civil Engineering N. C. College of Agriculture and Mechanic Arts.	
NICHOLAS LOUIS GIBBON,	B. S.,	Cateechee, S. C.
	With Norris Cotton Mills Co.	
CEBERN DODD HARRIS,	B. S.,	Raleigh, N. C.
	Assistant Chemist N. C. Agricultural Experiment Station.	
JERE EUSTIS HIGHSMITH,	B. S.,	Parkersburg, N. C.
	Farmer.	
CLYDE BENNETT KENDALL,	B. S.,	Raleigh, N. C.
	1st Sergt. 2d Regiment N. C. Volunteers, U. S. A.	
JOSEPH LAWRENCE KNIGHT,	B. S.,	Milldred, N. C.
	Dairyman.	
WALTER JONES MCLENDON, JR.,	B. S.,	Wadesboro, N. C.
REPTON HALL MERRITT,	B. S.,	Wilmington, N. C.
	With Standard Oil Company.	
ALBERT HICKS OLIVER,	B. S.,	Raleigh, N. C.
	Dairyman.	
HUGH WILLIAMS PRIMROSE,	B. S.,	Raleigh, N. C.
	Assistant in Chemistry, N. C. College of Agriculture and Mechanic Arts.	
WILLIAM HUNTER SANDERS,	B. S.,	Raleigh, N. C.
	Assistant Engineer Raleigh Electric Co.	
THOMAS JEHU SMITHWICK,	B. S.,	Raleigh, N. C.
	Assistant in Shop N. C. College of Agriculture and Mechanic Arts.	
LEA WATSON,	B. S.,	Raleigh, N. C.
	Assistant in Mechanical Engineering N. C. College of Agriculture and Mechanic Arts.	
BRADLEY JEWETT WOOTTEN,	B. S.,	Raleigh, N. C.
	Bat. Adjt. 2d Regiment N. C. Volunteers, U. S. A.	
JOHN ISHAM BLOUNT,	C. E.,	Ithaca, N. Y.
	See Class of 1895.	
DAVID CLARK,	C. E.,	Raleigh, N. C.
	See Class of 1895.	
LEVI ROMULUS WHITTED,	C. E.,	Port Royal, S. C.
	See Class of 1896.	

COLLEGE AND GROUNDS.

TENTH ANNUAL CATALOGUE

OF THE

NORTH CAROLINA COLLEGE

OF

AGRICULTURE AND MECHANIC ARTS,

RALEIGH.

1898-'99.

FIRST TERM BEGINS WEDNESDAY, SEPTEMBER 1, 1899.

RALEIGH:
EDWARDS & BROUGHTON AND E. M. UZZELL, STATE PRINTERS AND BINDERS,
Presses of E. M. Uzzell.
1899.

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HISTORY.

The Colleges of Agriculture and Mechanic Arts now doing such useful work in the United States were established by the States largely as the result of the liberality of the General Government, which, in 1862, passed a law by which each State in the Union received public lands in proportion equal to thirty thousand acres for each Senator and Representative in Congress "for the endowment, support, and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts. * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

In 1887 the Legislature of North Carolina decided that the funds arising from this act should go to this College, and ground for the institution having been given by the late R. S. Pullen, of Raleigh, the work of putting up a suitable building was finished in 1889, and the College opened its doors the first day of October of that year.

In 1890 what is known as the "Supplemental Morrill Bill" was passed by Congress. This bill makes a direct yearly appropriation from the United States Treasury to each State that maintains an Agricultural and Mechanical College.

From these two acts the College gets about two-thirds of its annual income—the other third is supplied by State appropriation. In 1889 the new institution began its work with five members in its faculty and with one building. In the eight years since elapsing, the faculty has grown to twenty-three members and the buildings have increased to twelve.

LOCATION.

The College is situated on a commanding eminence on the Hillsboro road, one of the principal highways into Raleigh, three-fourths of a mile west of the city limit. The site is in all respects a suitable one. The ground slopes away from the buildings, giving opportunity for perfect drainage, thus securing this additional requisite of healthful surroundings.

TABULAR ALMANAC.

1898.

JULY.

S	M	T	W	T	F	S
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AUGUST.

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OCTOBER.

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DECEMBER.

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1899.

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MARCH.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

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17	18	19	20	**21**	22	23
24	25	26	27	28	29	30
31	--	--	--	--	--	--

1900.

JANUARY.

S	M	T	W	T	F	S
--	1	2	**3**	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	--	--	--
--	--	--	--	--	--	--

FEBRUARY.

S	M	T	W	T	F	S
--	--	--	--	1	2	3
4	5	6	7	8	9	10
11	**12**	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	--	--	--
--	--	--	--	--	--	--

MARCH.

S	M	T	W	T	F	S
--	--	--	--	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	**16**	17
18	19	**20**	21	22	23	24
25	26	27	28	29	30	31
--	--	--	--	--	--	--

APRIL.

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	--	--	--	--	--
--	--	--	--	--	--	--

MAY.

S	M	T	W	T	F	S
--	--	1	2	3	4	5
6	7	8	9	10	**11**	12
13	14	15	16	17	**18**	19
20	21	22	23	24	**25**	26
27	28	**29**	**30**	31	--	--
--	--	--	--	--	--	--

JUNE.

S	M	T	W	T	F	S
--	--	--	--	--	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
--	--	--	--	--	--	--

COLLEGE CALENDAR.

1898.

Thursday,	July	14,	Examination for admission at county-seats by county supervisors.
Thursday,	September	8,	
Wednesday,	August	31,	Examination at the College for admission.
Thursday,	September	1,	First Term begins; Registration Day.
Thursday,	November	24,	Thanksgiving Day.
Thursday,	December	22,	First Term ends.

1899.

Tuesday,	January	3,	Second Term begins; Registration Day.
Monday,	February	13,	Announcement of Subjects of Theses.
Friday,	March	17,	Second Term ends.
Tuesday,	March	21,	Third Term begins; Registration Day.
Friday,	May	19,	Last Day for submitting Theses.
Friday,	May	26,	Senior Examinations end.
Friday,	June	2,	Examinations end.
Sunday,	June	4,	Baccalaureate Sermon.
Tuesday,	June	6,	Annual Oration.
Wednesday,	June	7,	Commencement Day.

Thursday,	July	13,	Examination for admission at county-seats by county superintendents of schools.
Tuesday,	September,	5,	Examination at the College for admission.
Wednesday,	September	6,	First Term begins; Registration Day.
Thursday,	November	30,	Thanksgiving Day.
Thursday,	December	21,	First Term ends.

1900.

Wednesday,	January	3,	Second Term begins; Registration Day.
Monday,	February	12,	Announcement of Subjects of Theses.
Friday,	March	16,	Second Term ends.
Tuesday,	March	20,	Third Term begins; Registration Day.
Friday,	May	11,	Last Day for submitting Theses.
Friday,	May	18,	Senior Examinations end.
Friday,	May	25,	Examinations end.
Sunday,	May	27,	Baccalaureate Sermon.
Tuesday,	May	29,	Annual Oration.
Wednesday,	May	30,	Commencement Day.

BOARD OF TRUSTEES.

W. S. Primrose, Raleigh,
President of the Board.

First Appointed.	Member.	Representative of	Term Expires.
1887	W. S. Primrose, Raleigh	State-at-Large	1901
1887	A. Leazar, Mooresville	State-at-Large	1901
1887	H. E. Fries, Salem	State-at-Large	1901
1893	D. A. Tompkins, Charlotte	Sixth District	1901
1894	T. B. Twitty, Rutherfordton	State-at-Large	1901
1895	Frank Wood, Edenton	First District	1901
1897	J. C. L. Harris, Raleigh	State-at-Large	1903
1897	L. C. Edwards, Oxford	State-at-Large	1903
1897	John W. Harden, Jr., Raleigh	State-at-Large	1901
1897	H. E. Bonitz, Wilmington	State-at-Large	1901
1897	Matt Moore, Kenansville	Third District	1901
1897	J. Z. Waller, Burlington	Fifth District	1901
1899	W. H. Ragan, High Point	State-at-Large	1901
1899	David Clark, Charlotte	State-at-Large	1901
1899	R. L. Smith, Albemarle	State-at-Large	1901
1899	P. J. Sinclair, Marion	State-at-Large	1901
1899	J. B. Stokes, Windsor	Second District	1901
1899	W. J. Peele, Raleigh	Fourth District	1901
1899	E. Y. Webb, Shelby	Seventh District	1901
1899	W. C. Fields, Sparta	Eighth District	1901
1899	J. Frank Ray, Franklin	Ninth District	1901
1899	Alex. Q. Holladay	President of the College.	*Ex officio.*

EXECUTIVE COMMITTEE.

W. S. Primrose, *Chairman.*
A. Leazar, H. E. Fries.

COLLEGE FINANCE COMMITTEE.

W. H. Ragan, *Chairman.*
J. F. Ray, David Clark.

STATION FINANCE COMMITTEE.

W. C. Fields, *Chairman.*
J. B. Stokes, E. Y. Webb.

FACULTY AND OFFICERS.

ALEXANDER Q. HOLLADAY,
(LL. D., Davidson College; University of Virginia; University of Berlin),
President and Professor of History.

W. F. MASSEY,
(C. E., Union College; Washington College; Dickinson College),
Professor of Horticulture, Arboriculture and Botany.

W. A. WITHERS,
(A. M., Davidson College; (Fellow) Cornell University),
Professor of Pure and Agricultural Chemistry.

D. H. HILL, A. M.,
Professor of English.

W. C. RIDDICK,
(A. B., University of North Carolina; C. E., Lehigh University),
Professor of Civil Engineering and Mathematics.

FRANK E. EMERY,
(B. S. and M. S., Maine State College, now University of Maine),
Professor of Agriculture.

F. A. WEIHE,
(M. E., Lehigh University; Ph. D., University of Berlin, Germany),
Professor of Physics and Electrical Engineering.

C. W. SCRIBNER,
(A. B., Princeton; M. E., Stevens),
Professor of Mechanical Engineering and Secretary.

COOPER CURTICE,
(B. S., Cornell University; D. V. S., Columbia Veterinary College; M. D., Columbian University),
Professor of Zoology and Veterinary Science.

E. G. BUTLER,
Assistant Professor of English and Bursar.

R. E. L. YATES,
(A. M., Wake Forest College),
Instructor in Mathematics.

CHARLES M. PRITCHETT,
(B. S., Ga. School of Tech.; M. E., C. E., N. C. College of Agriculture and Mechanic Arts),
Instructor in Mechanical Engineering.

CHARLES B. PARK,
Superintendent of Shops.

B. S. SKINNER,
Farm Superintendent.

J. A. BIZZELL,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Instructor in Chemistry.

THOMAS L. WRIGHT,
(B. S., University of North Carolina),
Instructor in Mathematics.

C. W. HYAMS,
(Trinity College; University of Tennessee),
Instructor in Botany.

J. M. JOHNSON,
(B. S., University West Virginia; M. S., Cornell University),
Instructor in Agriculture.

*G. S. FRAPS,
(B. S., N. C. College of Agriculture and Mechanic Arts; Ph. D., Johns Hopkins University),
Instructor in Chemistry.

*On leave of absence. The duties are performed temporarily by J. M. Pickel, Ph. D.

B. J. WOOTTEN,
(B. S., N. C. College of Agriculture and Mechanic Arts, Lieut. U. S. V.),
Instructor in Military Science and Tactics.

JAQUES BUSBEE,
(Art Students' League, N. Y.; Pupil Wm. M. Chase),
Instructor in Free-hand Drawing.

J. W. CARROLL,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Dairyman.

W. A. G. CLARK,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Civil Engineering.

H. W. PRIMROSE,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Chemistry.

J. L. WATSON,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Shop Work.

N. R. STANSEL,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Assistant in Physics and Electrical Engineering.

E. B. OWEN,
(B. S., N. C. College of Agriculture and Mechanic Arts),
Tutor Sub-Freshman Class.

MRS. SUE C. CARROLL,
Matron.

JAS. R. ROGERS,
A. B., Wake Forest College: M. D., College of Phys. and Surg., Baltimore),
Physician.

AGRICULTURAL EXPERIMENT STATION.

The North Carolina Agricultural Experiment Station was established in accordance with the act of the General Assembly, ratified March 12th, 1877. Its work was materially aided by the act of Congress of March 2d, 1887, popularly known as the "Hatch act," which made a liberal donation to each State for the purpose of investigations in Agriculture, and for publishing the same.

EXPERIMENT STATION STAFF.

*ALEX. Q. HOLLADAY, LL. D., President of the College.
*W. A. WITHERS, A. M., Acting Director and Chemist.
*F. E. EMERY, M. S., Agriculturist.
*W. F. MASSEY, C. E., Horticulturist.
*COOPER CURTICE, D. V. S., M. D., Veterinarian.†
‡G. S. FRAPS, B. S., Assistant Chemist.
J. A. BIZZELL, B. S., Assistant Chemist.
H. W. PRIMROSE, B. S., Assistant Chemist.
ALEX. RHODES, Assistant Horticulturist.
C. W. HYAMS, Assistant Botanist.
J. M. JOHNSON, M. S., Assistant Agriculturist.
B. S. SKINNER, Farm Superintendent.
J. M. FIX, Secretary.
C. M. HUGHES, B. E., Clerk.
MRS. L. V. DARBY, Stenographer.

**FERTILIZER CONTROL DIVISION.

A. W. BLAIR, A. M., State Chemist.
C. B. WILLIAMS, M. S., Assistant Chemist.
C. D. HARRIS, B. S., Assistant Chemist.
F. G. KELLY, Assistant Chemist.
W. G. HAYWOOD, B. Litt., Assistant Chemist.
H. E. KING, Chief Clerk.
MISS M. S. BIRDSONG, Stenographer.

EXPERIMENT STATION PUBLICATIONS.

These publications are prepared for the benefit of the farmers of the State, the truckers, nurserymen, stock raisers, etc., and are sent cheerfully and free of charge to anyone in the State who will read and study them. Make the request on a postal card, addressed *Agricultural Experiment Station, Raleigh, N. C.*

CORRESPONDENCE.

The Station is very glad to receive questions from the farmers of the State in regard to agricultural matters.

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*Member of the Station Council.
†On leave of absence after March 15th.
‡On leave of absence until May 15th. The duties are being performed temporarily by J. M. Pickel, Ph. D.
**The Fertilizer Control Division and its work will be transferred to the control of the Board of Agriculture after June 30th, 1899.

COURSES OF STUDY.

The three general courses of study offered in this institution are in Agriculture, in Engineering and in Science.

In the Freshman year, all students have the same subjects of study.

Freshman Year, 1898-1899 **Slide 6**

FRESHMAN CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Arithmetic	4	—	—	31	1
Algebra	2	5	5	31	2
Introductory Rhetoric	3	3	3	31	1
Composition	1	1	1	31	2
American History	1	1	1	33	1
Human Physiology	3	—	—	25	11
Soil Physics	—	4 (part)	—	24	1
Market Gardening	—	4 (part)	—	24	2
Elements of Agriculture	—	—	4	23	1
Elementary Physics	3	3	3	32	1
Free-hand Drawing	3	—	—	26	1*a*
Elementary Mechanical Drawing	—	3	3	26	1*c*
Carpenter Shop	4	4	4	27	2*a*

At the beginning of the Sophomore year, the courses begin to specialize, and the student selects the course best fitted to his needs. With each of the higher classes, more time is given to the technical studies of the course. A thesis is required for graduation.

THE COURSE IN AGRICULTURE.

The technical work of this course is in Agriculture, Horticulture and Chemistry.

Inasmuch as this is not a manual labor training school, no attempt is made to educate a young man to be *simply* a farm laborer, but he receives, in addition to his practical work, a higher training that will fit him for a life of more extended usefulness.

SOPHOMORE CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Breeds of Live Stock	—	4	—	23	3
Staple Crops	—	—	3	23	4
Agricultural Practice	—	2	4	23	2*a*
Structural Botany	2	2	—	24	1
Pomology	3	2	—	24	3
Physiological Botany	—	—	2	24	2
Entomology	—	2	—	25	10
Entomology (field and laboratory work)	—	—	4	25	10
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Geometry	5	5	—	32	4
Trigonometry	—	—	4	32	5
Architecture	3	—	—	30	1
Architectural Drawing	5	—	—	30	2
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	33	2
Book-keeping	—	1	1	33	1

JUNIOR CLASS.

Sheep and Swine Husbandry	3	—	—	23	6
Dairying	—	3	—	23	7
Dairy Bacteriology	—	—	3	23	8
Agricultural Practice	4	8	—	23	2*b*
Meteorology	3	—	—	23	5
Landscape Gardening	4 (part)	—	—	24	4
Forestry	4 (part)	—	—	24	5
Systematic Botany	4	—	—	24	3
Palæobotany	—	2	—	25	4
Green-house Propagation	—	2	—	24	6
Cryptogamic Botany	—	—	4 (part)	25	5
Vegetable Histology	—	—	4 (part)	25	6
Agricultural Chemistry	3	3	3	26	6
Qualitative Analysis	6	6	6	25	3
Surveying	—	2	2	29	2
Surveying (field work)	—	—	9	29	3
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	33	3

SENIOR CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Cattle Feeding	5	—	—	23	9
Stock Breeding	—	5	—	23	10
Soil Physics	—	—	5 (part)	23	11
Agricultural Economics	—	—	5 (part)	23	12
Agricultural Practice	4	4	4	23	2*c*
Horticulture	2	—	—	24	7
Floriculture	—	2	—	24	8
Plant Breeding	—	—	2	24	9
Horticultural Practice	4	4	4	24	10
Organic Chemistry	3	3	3	26	7
Introductory Quantitative Analysis	7	--	—	26	4
Advanced Quantitative Analysis	—	8	8	26	5
History of English Literature	3	3	3	31	8
Ecclesiastical and Modern History	1	1	1	33	4
Military Tactics	1	1	1	34	1
Thesis.					

THE COURSE IN ENGINEERING.

The course in Engineering is designed to prepare the student to make the most of his subsequent experience, so that he may be soonest fitted to meet the demands of modern practice as an engineer, as a draughtsman, as a practical mechanic, or as an electrician

The technical work is in Mechanical, Civil and Electrical Engineering, and toward the end of the course, the student is allowed to specialize somewhat along one of these lines.

SOPHOMORE CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Turning and Pattern Shop	6	6	6	27	2*b*
Mechanical Drawing	—	2	5	27	1*d*
Architecture	3	—	—	30	1
Architectural Drawing	5	5	—	30	2
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Geometry	5	5	—	32	4
Algebra	—	—	2	32	3
Trigonometry	—	—	4	32	5
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	33	2
Book-keeping	—	1	1	33	1

JUNIOR CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Steam Engine	3	2	—	27	4
Valve Gears	3	—	—	27	5
Drawing and Designing	5	5	5	27	1*e*
Forge Shop	5	5	5	27	3*a*
Mechanics	3	—	—	32	8
Graphical Statics	—	3	—	29	1
Surveying	—	2	2	29	2
Surveying (field work)	—	—	9	29	3
Electricity and Magnetism	—	3	3	32	2
Physical Laboratory	4	3	—	33	4
Trigonometry	3 (part)	—	—	32	5
Analytical Geometry	3 (part)	3	3	32	6
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	33	3

SENIOR CLASS—MECHANICAL ENGINEERING GROUP.

Machine Shop	7	7	7	27	3*b*
Machine Design	4	3	4	29	12
Mechanical Laboratory	—	4	5	29	13
Steam Boilers	1	—	—	27	6
Boiler Design	—	3	2	28	7
Mechanics of Machinery	—	—	2	28	9
Hydraulics	—	2	2	30	7
Analytical Mechanics	3	3	—	28	10
Strength of Materials	—	—	3	28	11
Electricity and Magnetism	3	—	—	32	2
Physical Laboratory	4	—	—	33	5
Calculus	4	4	—	32	7
History of English Literature	3	3	3	31	8
Ecclesiastical and Modern History	1	1	1	33	4
Military Tactics	1	1	1	34	1
Thesis					

SENIOR CLASS—CIVIL ENGINEERING GROUP.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page	No.
Railroad Engineering	—	2	2	29	4
Railroad Engineering (field work)	—	—	7	30	5
Roofs, Bridges and Arches	4	3	4	30	6
Hydraulics	—	2	2	30	7
Machine Shop	7	7	—	27	3*b*
Mechanical Laboratory	—	4	5	29	13
Mechanics of Machinery	—	—	2	28	9
Steam Boilers	1	—	—	27	6
Analytical Mechanics	2	3	—	28	10
Strength of Materials	—	—	3	28	11
Electricity and Magnetism	3	—	—	32	2
Physical Laboratory	4	—	—	33	5
Calculus	4	4	—	32	7
History of English Literature	3	3	3	31	8
Ecclesiastical and Modern History	1	1	1	33	4
Military Tactics	1	1	1	34	1
Thesis.					

SENIOR CLASS—ELECTRICAL ENGINEERING GROUP.

Electricity and Magnetism	3	—	—	32	2
Electrical Laboratory	—	5	5	30	2
Electrical Engineering	—	4	4	30	1
Machine Design	4	3	4	29	12
Machine Shop	7	5	5	27	3*b*
Steam Boilers	1	—	—	27	6
Mechanics of Machinery	—	—	2	28	9
Hydraulics	—	2	2	30	7
Analytical Mechanics	3	3	—	28	10
Strength of Materials	—	—	3	28	11
Physical Laboratory	4	—	—	33	5
Calculus	4	4	—	32	7
History of English Literature	3	3	3	31	8
Ecclesiastical and Modern History	1	1	1	33	4
Military Tactics	1	1	1	34	1
Thesis.					

THE COURSE IN SCIENCE.

This course affords the student an opportunity to devote his time to special work in Zoology, Botany, Agricultural and Analytical Chemistry, Physics, applied Electricity, applied Mathematics, etc., in addition to the general studies. During the Senior year the work is very largely elective and the subjects are arranged in groups so as to suit the needs of the student.

SOPHOMORE CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page.	No.
Structural Botany	2	2	—	24	1
Physiological Botany	—	—	2	24	2
Pomology	3	2	—	24	3
Entomology	—	2	—	25	10
Entomology (field and laboratory work)	—	—	4	25	10
Inorganic Chemistry	3	3	3	25	1
Experimental Chemistry	4	4	4	25	2
Architecture	3	—	—	30	1
Architectural Drawing	5	—	—	30	2
Free-hand Drawing	—	5	5	26	1*b*
Geometry	5	5	—	32	4
Algebra	—	—	2	32	3
Trigonometry	—	—	4	32	5
American Literature	1	1	1	31	3
Rhetoric	2	2	2	31	4
Ancient and Mediæval History	1	1	1	33	2
Book-keeping	—	1	1	33	1

JUNIOR CLASS.

SUBJECTS.	NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
	1st Term.	2d Term.	3d Term.	Page.	No.
Systematic Botany	4	—	—	24	3
Palæobotany	—	2	—	25	4
Cryptogamic Botany	—	—	4 (part)	25	5
Vegetable Histology	—	—	4 (part)	25	6
Forestry	4 (part)	—	—	24	5
Landscape Gardening	4 (part)	—	—	24	4
Green-house Propagation	—	2	—	24	6
Organic Chemistry	3	3	3	26	7
Qualitative Analysis	6	6	6	25	3
Mechanics	3	—	—	32	8
Electricity and Magnetism	—	3	3	32	2
Physical Laboratory	—	4	4	33	4
Trigonometry	3 (part)	—	—	32	5
Analytical Geometry	3 (part)	3	3	32	6
Logic	3	—	—	31	5
Studies in Prose	—	3	—	31	6
Poetic Study	—	—	3	31	7
English History	1	1	1	33	3

SENIOR CLASS—CHEMICAL GROUP.

Agricultural Chemistry	required subjects. A	3	3	3	26	6
Theoretical Chemistry		2	2	2	26	9
Introductory Quantitative Analysis		7	—	—	26	4
Advanced Quantitative Analysis		—	12	12	26	5
Electricity and Magnetism		3	—	—	32	2
Light and Heat		—	3	3	32	3
Physical Laboratory		6	—	—	33	5
History of English Literature		3	3	3	31	8
Ecclesiastical and Modern History		1	1	1	33	4
Military Tactics		1	1	1	34	1
Biology	B	6	6	6	25	7
Advanced Quantitative Analysis	C	6	6	6	26	5
Physical Laboratory	D	—	6	6	33	5*b*
Thesis.						

Note.—In addition to the required subjects, A, one of the groups B or C must be taken, during the first term, and B, C or D during the second and third terms.

SENIOR CLASS—PHYSICAL GROUP.

SUBJECTS.		NUMBER OF HOURS PER WEEK.			FOR BRIEF DESCRIPTION SEE	
		1st Term.	2d Term.	3d Term.	Page.	No.
Electricity and Magnetism,		3	—	—	32	2
Light and Heat		—	3	3	32	3
Analytical Mechanics		3	3	—	28	10
Strength of Materials		—	—	3	28	11
Physical Laboratory		6	6	6	33	5
Introductory Quantitative Analysis	required subjects.	7	—	—	26	4
Advanced Quantitative Analysis		—	8	8	26	5
History of English Literature	E	3	3	3	31	8
Ecclesiastical and Modern History		1	1	1	33	4
Military Tactics		1	1	1	34	1
Calculus	F	4	4	2	32	7
Theoretical Chemistry	G	2	2	2	26	9
Advanced Quantitative Analysis		4	4	4	26	5
Thesis.						

NOTE.—In addition to the required subjects, E, one of the two groups, F or G, must be taken.

SENIOR CLASS—BIOLOGICAL GROUP.

SUBJECTS.		1st Term.	2d Term.	3d Term.	Page.	No.
Biology		6	6	6	25	7
Horticulture		2	—	—	24	7
Floriculture		—	2	—	24	8
Plant Breeding	required subjects	—	—	2	24	9
Horticultural Practice		4	4	4	24	10
Agricultural Chemistry		3	3	3	26	6
History of English Literature	H	3	3	3	31	8
Ecclesiastical and Modern History		1	1	1	33	4
Military Tactics		1	1	1	34	1
Cattle Feeding		5	—	—	23	9
Stock Breeding		—	5	—	23	10
Soil Physics	I	—	—	5 (part)	23	11
Agricultural Economics		—	—	5 (part)	23	12
Agricultural Practice		4	4	4	23	2c
Theoretical Chemistry		2	2	2	26	9
Introductory Quantitative Analysis	J	7	—	—	26	4
Advanced Quantitative Analysis		—	8	8	26	5
Thesis.						

NOTE.—In addition to the required subjects, H, one of the groups I or J must be taken.

HORTICULTURAL DEPARTMENT.

POST-GRADUATE COURSES.

Post-graduate courses have been established, leading to the degrees of Master of Science (M. S.), Mechanical Engineer (M. E.), Civil Engineer (C. E.), and Electrical Engineer (E. E.).

The Faculty will recommend for advanced degrees candidates who, having taken the Bachelor's Degree in Agriculture, Science or Engineering, shall pursue for at least two years a course of study and shall pass the required examinations.

Candidates for the Master's degree may take their major subject in Agriculture, Horticulture, Chemistry, Physics, or Biology. Candidates for the degrees of M. E., C. E. and E. E., may choose special lines of work in one of the Engineering departments.

The professor in charge will prescribe a course made up largely of general studies and practice in the work of his department, but including also special subjects in the lines chosen by the student.

A thesis embodying some special design, or the results of some original investigation, must be submitted and accepted before the final examinations are taken.

The studies will be carefully adapted to the expansion and development of the special lines of work selected by graduate students for a professional calling.

IRREGULAR WORK.

All students are advised to take one of the regular courses of study, but students who are otherwise qualified may be allowed to elect certain studies from the regular courses already provided in the College, if no inconvenience result therefrom to the members of the regular class.

SHORT COURSES.

Any applicant for such a course must satisfy the Faculty that he is fitted to undertake the work and that he has some definite purpose which he seeks to attain. He should be at least eighteen years of age. The particular studies to be taken up and the time to be devoted to each will be determined for each applicant at the time he is received, which should, whenever possible, be at the beginning of one of the regular college terms.

In the short course in Agriculture the student may devote his attention to the study of Breeds of Live Stock, Cattle Feeding, Dairying, Agricultural Chemistry, Stock Breeding, Staple Crops, Pomology, Market Gardening and Green-house Propagation.

In the short course in Mechanic Arts the student may devote his attention to the study of Drawing, Shop Work, Boiler-, Engine- and Dynamo-tending, Building Materials and Book-keeping.

If desired, the student may in addition devote some time to English and Mathematics, or other general studies.

SUB-FRESHMAN CLASS.

A Sub-Freshman Class has been organized to give special preparation to such young men as are unable to enter the Freshman Class, and who nevertheless desire a technical education. No county will be allowed to have more representatives in this class than it has in the House of Representatives of the General Assembly.

SUBJECTS OF INSTRUCTION.

AGRICULTURE AND LIVE STOCK.

1. ELEMENTS OF AGRICULTURE.—Recitations. Four hours, third term. Required of all Freshmen. Prof. Emery and Mr. Johnson.

2*a*. AGRICULTURAL PRACTICE.—Work in the field, stable, dairy, and with farm machinery. Two hours, second term, and four hours, third term. Required of Sophomores in Agriculture. Mr. Johnson.

2*b*. AGRICULTURAL PRACTICE.—Continuation of 2*a*. Four hours, first term, and eight hours, second term. Required of Juniors in Agriculture. Mr. Johnson.

2*c*. AGRICULTURAL PRACTICE.—Continuation of 2*b*. Four hours. Required of Seniors in Agriculture and in Science-I. Prof. Emery.

3. BREEDS OF LIVE STOCK.—Four hours, second term. Required of Sophomores in Agriculture. Mr. Johnson.

4. STAPLE CROPS.—Lectures. Three hours, third term. Required of Sophomores in Agriculture. Mr. Johnson.

5. METEOROLOGY.—Recitations. Three hours, first term. Required of Juniors in Agriculture. Prof. Emery.

6. SHEEP AND SWINE HUSBANDRY.—Lectures. Three hours, first term. Required of Juniors in Agriculture. Mr. Johnson.

7. DAIRYING.—Lectures. Three hours, second term. Required of Juniors in Agriculture. Mr. Johnson.

8. DAIRY BACTERIOLOGY.—Russell's *Dairy Bacteriology*. Three hours, third term. Required of Juniors in Agriculture. Mr. Johnson.

9. CATTLE FEEDING.—Stoichiology. Five hours, first term. Required of Seniors in Agriculture and in Science-I. Prof Emery.

10. STOCK BREEDING.—Text-book and Notes. Five hours, second term. Required of Seniors in Agriculture and in Science-I. Prof. Emery.

11. SOIL PHYSICS.—Recitations and Lectures. Five hours, third term (part). Required of Seniors in Agriculture and in Science-I. Prof. Emery.

12. AGRICULTURAL ECONOMICS.—Lectures. Fertility of soils, farm machinery, farm management. Five hours, third term (part). Required of Seniors in Agriculture and in Science-I. Prof. Emery.

HORTICULTURE.

1. SOIL PHYSICS.—Four hours, second term (part). Required of all Freshmen. Mr. Hyams.
2. MARKET GARDENING.—Massey's *Trucking in the South.* Four hours, second term (part). Required of all Freshmen. Mr. Hyams.
3. POMOLOGY.—Practice. Application of principles to pomology with practice in budding, pruning and grafting. Three hours, first term; two hours, second term. Required of Sophomores in Agriculture and Science. Mr. Rhodes.
4. LANDSCAPE GARDENING.—Lectures. Laying out of grounds, and history of garden art. Four hours, first term (part). Required of Juniors in Agriculture and Science. Prof. Massey.
5. FORESTRY.—Lectures on forests, timbers and forest products. Four hours, first term (part). Required of Juniors in Agriculture and Science. Prof. Massey.
6. GREEN-HOUSE PROPAGATION.—Practice in green-house. Two hours, second term. Required of Juniors in Agriculture and Science. Mr. Rhodes.
7. HORTICULTURE.—Lectures. The principles and practice of market gardening, the culture of small fruits and vegetables out of doors and under glass, green-house management, structure of green-houses and heating apparatus. Two hours, first term. Required of Seniors in Agriculture, and in Science-H. Prof. Massey.
8. FLORICULTURE.—Lectures. Commercial culture of flowers in open ground and under glass. Two hours, second term. Required of Seniors in Agriculture and Science-H. Prof. Massey.
9. PLANT BREEDING.—Recitations. Two hours, third term. Required of Seniors in Agriculture and in Science-H. Prof. Massey.
10. HORTICULTURAL PRACTICE.—Practice in field, green-house and grounds, to supplement Nos. 4, 7 and 8. Four hours. Required of Seniors in Agriculture and in Science-H. Mr. Rhodes.

BIOLOGY.

1. STRUCTURAL BOTANY.—Bailey's *Lessons with Plants.* Two hours, first and second terms. Required of Sophomores in Agriculture and Science. Mr. Hyams.
2. PHYSIOLOGICAL BOTANY.—Lectures. Two hours, third term. Required of Sophomores in Agriculture and Science. Prof. Massey.
3. SYSTEMATIC BOTANY.—Practice. Collection of native plants and formation of herbarium. Four hours, first term. Required of Juniors in Agriculture and Science. Mr. Hyams.

4. PALÆOBOTANY.—Dawson's *Geological History of Plants.* A general outline of geology, directed especially to the tracing of the development of plant-life with geological periods. Two hours, second term. Required of Juniors in Agriculture and Science. Professor Massey.
5. CRYPTOGAMIC BOTANY.—Laboratory practice. Four hours, third term (part). Required of Juniors in Agriculture and Science. Professor Massey and Mr. Hyams.
6. VEGETABLE HISTOLOGY.—Spalding's *Introductory* and Hillhouse's *Translation of Strasburger.* Laboratory work with microscope. Four hours, third term (part). Required of Juniors in Agriculture and Science. Professor Massey and Mr. Hyams.
7. BIOLOGY.—*Dodge.* Six hours. Required of Seniors in Science-H. Professor Massey.
8. ELEMENTS OF BACTERIOLOGY.—*Abbott.* Elective for Seniors in Science, and Post-Graduates. Professor Massey.
9. BACTERIOLOGICAL LABORATORY.—Practice. Elective for Seniors in Science, and Post-Graduates. Professor Massey.
10. ENTOMOLOGY.—Comstock's *Elements.* Two hours, second term, four hours, third term. Required of Sophomores in Agriculture and Science. Professor Massey.
11. HUMAN PHYSIOLOGY.—Hutchinson's *Physiology,* supplemented by charts and illustrations. Three hours, first term. Required of all Freshmen. Professor Emery and Mr. Johnson.

CHEMISTRY.

1. INORGANIC CHEMISTRY.—The common elements and their principal compounds are studied, together with some of the fundamental principles of the science. Due attention is given to Stoichiometry. The lectures and recitations are illustrated with experiments and the exhibition of specimens, to which reference is made. Remsen's *Introduction to the Study of Chemistry.* Three hours. Required of all Sophomores. Professor Withers and Mr. Bizzell.
2. EXPERIMENTAL CHEMISTRY.—The student repeats for himself, under the eye of the instructor, the experiments performed in the lecture-room. He records in a note-book his results and his explanations of the same. Remsen and Randall's *Laboratory Guide.* Four hours. Required of all Sophomores. Mr. Primrose.
3. QUALITATIVE ANALYSIS.—The student is taught the identification of the more common elements in unknown compounds. He is required to write the reactions involved. Caldwell's *Chemical Analysis.* Six hours. Required of Juniors in Agriculture and Science. Mr. Bizzell.

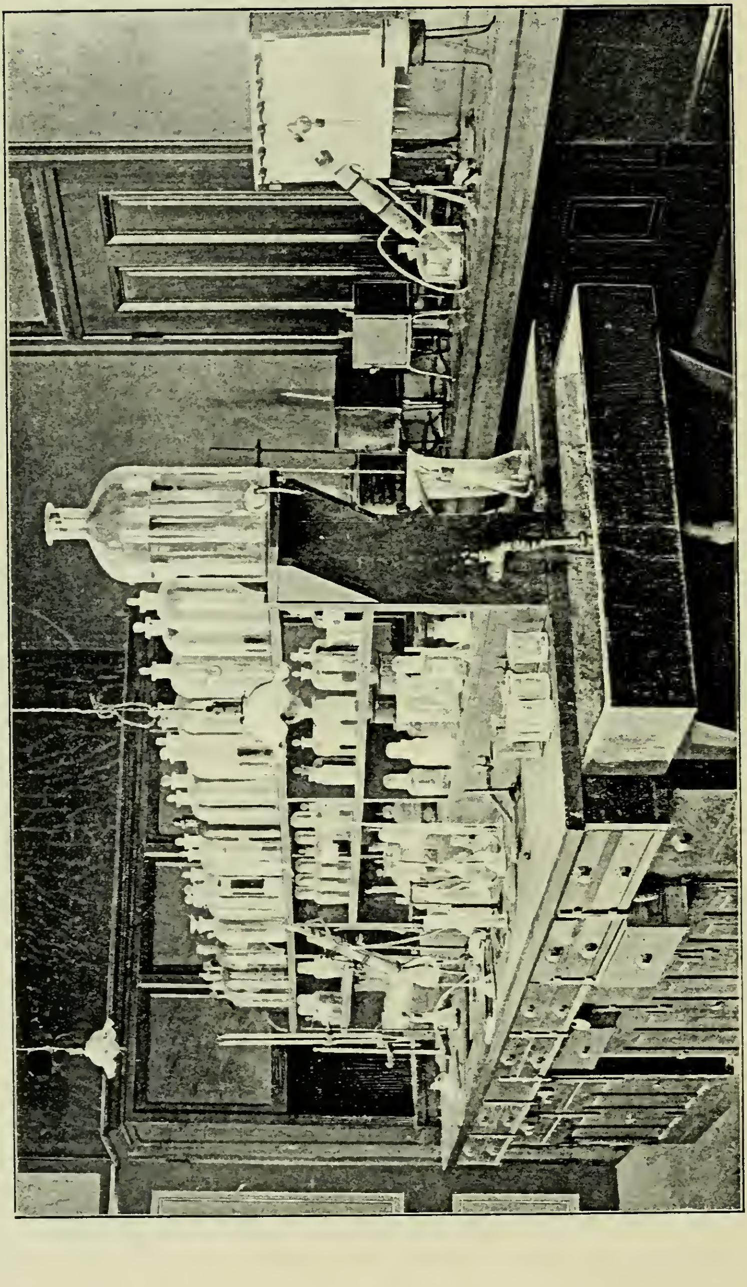
4. INTRODUCTORY QUANTITATIVE ANALYSIS.—*Caldwell.* The student is taught the use of the balance and familiarized with a few of the more common volumetric and gravimetric determinations. Seven hours, first term. Required of Seniors in Agriculture and Science-A and -E. Elective for Seniors in Science-J. Mr. Bizzell.
5. ADVANCED QUANTITATIVE ANALYSIS.—A continuation of 4. The student may devote his time to Agricultural, Technical or Physical Chemistry, depending upon his wishes. Eight hours, second and third terms. Required of Seniors in Agriculture and in Science-E. Elective for Seniors in Science-J. Twelve hours, second and third terms. Required of Seniors in Science-A. Four hours. Elective for Seniors in Science-G. Six hours. Elective for Seniors in Science-C. Professor Withers and Mr. Bizzell.
6. AGRICULTURAL CHEMISTRY.—The lectures follow Mayer. Attention is given to a consideration of the atmosphere as a plant feeder; the mineral and organic constituents of the plant, and their functions; the preparation of manures and composts; green manuring; the composition of fodder, and the different means of curing and preserving it; chemistry of butter, of milk, etc. Three hours. Required of Juniors in Agriculture, and of Seniors in Science-A and -H. Professor Withers.
7. ORGANIC CHEMISTRY.—*Remsen.* Three hours. Required of Juniors in Science and of Seniors in Agriculture. Mr. Bizzell.
8. ORGANIC SYNTHESIS.—Orndorff's *Manual.* Seven hours. Elective for Seniors in Science and Post-Graduates. Dr. Fraps.
9. THEORETICAL CHEMISTRY.—*Meyer.* Two hours. Required of Seniors in Science-A. Elective for Seniors in Science-G and -J. Dr. Fraps.
10. HISTORICAL CHEMISTRY.—*Von Meyer.* One hour. Elective for Seniors in Science and Post-Graduates. Dr. Fraps.

MECHANICAL ENGINEERING.

1*a*. FREE-HAND DRAWING.—An elementary drill in the use of the pencil, beginning with simple forms. Sketches of objects, usually some piece of a machine. Three hours, first term. Required of all Freshmen. Mr. Pritchett.

1*b*. FREE-HAND DRAWING.—Elementary cast drawing and sketching from life. Five hours, second and third terms. Required of Sophomores in Science. Mr. Busbee.

1*c*. ELEMENTARY MECHANICAL DRAWING.—Use of instruments. Drawing practice on elementary machine pieces. Elementary projections. Drawings made to scale, from working sketches of pieces of machines. Three hours, second and third terms. Required of all Freshmen. Mr. Pritchett.



CHEMICAL LABORATORY.

1*d*. MECHANICAL DRAWING.—Isometric sketches from Mechanical drawings. Elements of machine designs. Working sketches and drawings of simple machine parts from the model. Shadow lines. Two hours, second term; five hours, third term. Required of Sophomores in Engineering. Mr. Pritchett and Mr. Watson.

1*e*. DRAWING AND DESIGNING.—Making working sketches, finished drawings, tracings and blue prints, from the tools and machines in the laboratories. Designing parts of tools or some piece of mechanism. Five hours. Required of Juniors in Engineering. Mr. Pritchett.

2*a*. CARPENTER SHOP.—Bench work in wood. Exercises made from working drawings, involving use of various tools, fitting of joints, etc. Making and finishing simple articles. Four hours. Required of all Freshmen. Mr. Watson.

2*b*. TURNING AND PATTERN SHOP.—Use of wood-working machinery, exercises from working drawings made on lathes and other tools, principles of pattern-making. Six hours. Required of Sophomores in Engineering. Mr. Park.

3*a*. FORGE SHOP.—Smith-work in iron and steel. Exercises from drawings, involving forging, welding, tempering, etc. Five hours. Required of Juniors in Engineering. Mr. Park.

3*b*. MACHINE SHOP.—Machine work in iron, steel, brass, etc. Exercises made from drawings on various machine tools. Construction of parts of a steam-engine, dynamo or some other machine, or of laboratory apparatus, involving machine tool work. Seven hours. Required of Seniors in Mechanical Engineering. Required of Seniors in Civil Engineering, first and second terms, and of Seniors in Electrical Engineering, first term. Five hours. Required of Seniors in Electrical Engineering, second and third terms. Mr. Park.

4. STEAM-ENGINE.—Descriptive study of Engines and Boilers, covering the details of cylinders, pistons, valves, connecting-rods, bed plates, foundations, and the ordinary types of boilers with their settings. Holmes' *The Steam Engine*, supplemented by sketching from cuts, drawings, and such engines and boilers as are accessible. Three hours, first term; two hours, second term. Required of Juniors in Engineering. Professor Scribner.

5. VALVE GEARS.—General theory of the slide-valve and link motions, and its application in the study and design of the valve mechanism of steam-engines; problems and exercises. McCord's *The Slide Valve*. Three hours, first term. Required of Juniors in Engineering. Mr. Clark.

6. STEAM BOILERS.—Types of Boilers, materials used, construction, staying, settings, furnaces and chimneys, fittings and appliances, boiler power, use and care of boilers, fuels and combustion, corro-

sion and incrustation. Peabody & Miller's *Steam Boilers.* One hour, first term. Required of Seniors in Engineering. Professor Scribner.

7. BOILER DESIGN.—Determination of proper proportions for grate and heating surfaces, area and length of flues and tubes, diameter and thickness of shell, arrangement and proportions of stays, etc., for various forms of boilers. Making sketches and working drawings from original designs (Wilson, Peabody & Miller, Barr, etc.). Each student is required to design every part of a boiler after one of the well-known types, stationary, marine or locomotive (no two having the same), and to make complete working drawings and tracings. Three hours, second term; two hours, third term. Required of Seniors in Mechanical Engineering. Professor Scribner.
8. STEAM-ENGINE DESIGN.—Determination of the proper proportions for cylinders, valves, pistons, rods, shafts, fly-wheels, etc. Making rough sketches and working drawings from original designs. Unwin's *Machine Design*, Part II. Each student is required to design the principal parts of an engine after one of the well known types, calculating the parts when the question of strength enters, and following the general design of the chosen type when the proportions are matters of experience. Two hours, for Post-Graduates. Professor Scribner.
9. MECHANICS OF MACHINERY.—Application of the laws of forces to machines, determination of motive or driving forces, including considerations of acceleration, inertia, friction, wear and efficiency by use of analytical and graphical methods; solution of problems, lecture notes and reference books. Two hours, third term. Required of Seniors and Post-Graduates in Engineering. Professor Scribner.
10. ANALYTICAL MECHANICS.—Nature and measure of forces, moments, conditions of equilibrium, moment of inertia, laws of motion, constraining and accelerating forces, dynamics of a rigid body, momentum and impact, work, power, friction, application of principles to various engineering problems. Bowser's *Analytical Mechanics.* Three hours, first and second terms. Required of Seniors in Engineering. Professor Scribner.
11. STRENGTH OF MATERIALS.—Study of materials, law of stress and strain, bending and resisting moments, shear and moment diagrams, shear and elastic curves of cantilever, simple, restrained and continuous beams, column formulas, torsion, maximum internal stresses, common flexure theory tested by experiment, problems in beams, analysis and design, specifications. Merriman's *Mechanics of Materials.* Three hours, third term. Required of Seniors in Engineering. Professor Scribner.

12. MACHINE DESIGN.—Complete design and drawing of some piece of mechanism, involving cam motion, gearing, etc., design of some piece of machinery, such as a punch, shears, riveting machine, crane, pump, hoist, water-motor, etc., studies and sketches of existing machines, determination of dimensions according to practice. *Unwin*, *Reuleaux*, *Kent*, *Haswell*, *Klein*, *Weisbach*, *Richards*, etc. Four hours, first term; three hours, second term; four hours, third term. Required of Seniors and Post-Graduates in Mechanical and Electrical Engineering. Professor Scribner and Mr. Pritchett.
13. MECHANICAL LABORATORY.—Determination of leverages and velocity ratios, manipulation of laboratory apparatus, testing gauges, indicator springs, dynamometers, weirs, boilers, engines, pumps, investigation of efficiencies of hoists, screws, etc., tests of materials for strength, co-efficient of friction. Four hours, second term; five hours, third term. Required of Seniors and Post-Graduates in Mechanical Engineering. Professor Scribner and Mr. Watson.
14. THERMODYNAMICS.—Mechanical theory of heat. Application to steam, air and gas-engines, and refrigerating machinery. Two hours, for Post-Graduates. Professor Scribner.
15. HYDRODYNAMICS.—The design of reaction and impulse turbines, measurement of flowing water, description and discussion of experiments. Hydraulic pressure engines. Bodmer's *Hydraulic Motors*. Two hours, for Post-Graduates. Professor Scribner.

CIVIL ENGINEERING.

1. GRAPHICAL STATICS.—Determination of stresses in frame structures by the graphic method. Three hours, second term. Lectures and original problems. Required of Juniors in Engineering. Professor Riddick.
2. SURVEYING.—Land surveying, leveling, elements of triangulation, topographical surveying, railroad surveying, road-making. Two hours, second and third terms. Wentworth's *Surveying*. Lectures. Required of Juniors in Engineering and Agriculture. Professor Riddick.
3. SURVEYING, FIELD WORK.—Use of instruments, compass, transit, level and plane table. Practical work in land surveying, topography, leveling, railroad surveying, working up notes and platting. Nine hours, third term. Required of Juniors in Engineering and Agriculture.
4. RAILROAD AND MUNICIPAL ENGINEERING. Two hours, second and third terms. Searles' *Field Engineering*. Lectures. Required of Seniors in Civil Engineering. Professor Riddick.

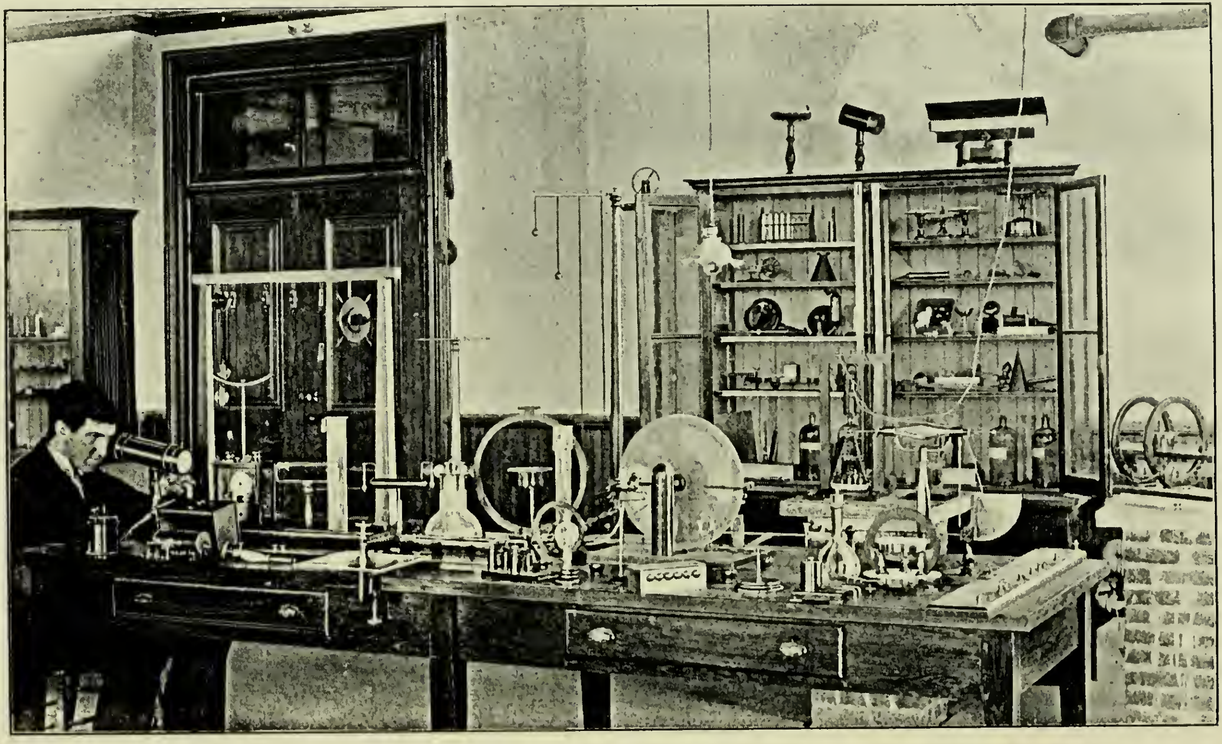
5. RAILROAD AND MUNICIPAL ENGINEERING.—Field Work. Seven hours practice, third term. Required of Seniors in Civil Engineering. Professor Riddick and Mr. Clark.
6. ROOFS, BRIDGES AND ARCHES.—Determination of stresses in roof and bridge trusses by the analytical method, design and construction of arches, roofs and bridges. Merriman's *Roofs and Bridges*. Original problems. Four hours, first term; three hours, second term, and four hours, third term. Required of Seniors in Civil Engineering. Professor Riddick.
7. HYDRAULICS.—Methods of measuring flow of streams, laws governing flow in pipes and conduits, determination of water-power in streams, testing of hydraulic motors. Two hours, second and third terms. Text-book, Merriman's *Hydraulics*. Required of Seniors in Engineering. Professor Riddick.

ELECTRICAL ENGINEERING.

1. ELECTRICAL ENGINEERING.—Practical units. Measurement of current, resistance and electro-motive force. Electro-magnets. Dynamo-electric machines. Dynamos, motors, transformers. Secondary batteries. Lamps. Installation. Four hours, second and third terms. Required of Seniors in Electrical Engineering. Professor Weihe.
2. ELECTRICAL LABORATORY.—Measurements of resistance, currents, electro-motive force, induction and capacity. Five hours, second and third terms. Required of Seniors in Electrical Engineering. Professor Weihe and Mr. Stansel.

ARCHITECTURE.

1. ARCHITECTURE.—Building materials, method of constructing buildings, plans, specifications, bill of materials, estimate of cost, design of buildings. Lectures. Three hours, first term. Required of Sophomores in all courses. Professor Riddick.
2. ARCHITECTURAL DRAWING.—Drawings from a building already constructed, design of a dwelling, detail and perspective drawings. Five hours, first term. Required of all Sophomores. Five hours, second term. Required of Sophomores in Engineering. Mr. Clark.



PHYSICAL LABORATORY.

ENGLISH.

1. INTRODUCTORY RHETORIC.—Hill's *Foundations*. Drill on the forms of language, and the formation of correct and forcible sentences, study of plans in narration and description. Three hours. Required of all Freshmen. Assistant Professor Butler.
2. COMPOSITION.—Written exercises required weekly. Themes are drawn largely from standard works read in class. Students are taught to plan all work, and every effort is made to develop their constructive and imaginative faculties. One hour. Required of all Freshmen. Professor Hill.
3. AMERICAN LITERATURE.—By means of text-books and by parallel reading, students are introduced to what is best in American literature. They study books at first hand. One hour. Required of all Sophomores. Professor Hill.
4. RHETORIC.—Genung's *Practical Rhetoric*. Painstaking paragraphic study; study of themes in exposition and argumentation. Many exercises in planning organic parts of essay and oration. Two hours. Required of all Sophomores. Professor Hill.
5. LOGIC.—Jevon's *Elements* and Gregory's *Practical Logic*. Much attention paid to practical exercises. Three hours, first term. Required of all Juniors. Professor Hill.
6. STUDIES IN PROSE.—Hart's *LeQuincey*, Carlyle's *Burns*, Thurber's *Addison's*, Garnett's *English Prose*. In a general way Minto's plan of prose study is followed. Three hours, second term. Required of all Juniors. Professor Hill.
7. POETIC STUDY.—Versification, lectures on dramatic art. Dowden's *Primer of Shakspeare*, Thayer's *English Plays*, Moulton's *Shakspeare as a Dramatic Artist*, Tennyson's *Princess*, Genung's *In Memoriam*. Three hours, third term. Required of all Juniors. Professor Hill.
8. HISTORY OF ENGLISH LITERATURE.—The development of our literature is studied in its great periods, and through its representative men. Much parallel reading is required. Three hours. Required of all Seniors. Professor Hill.

MATHEMATICS.

1. ARITHMETIC.—Begin with decimal fractions and complete the subject. Four hours, first term. Milne's *Standard Arithmetic*. Required of all Freshmen. Mr. Yates and Mr. Wright.
2. ALGEBRA.—To general theory of equations. Two hours, first term; five hours, second and third terms. Wells' *Higher Algebra*. Required of all Freshmen. Mr. Yates and Mr. Wright.

MILITARY SCIENCE AND TACTICS.

1. MILITARY TACTICS.—The instruction is in Infantry Drill Regulations, close and extended order, including the School of the Soldier, Company and Battalion, and embraces also recitations or lectures on Military Science. One hour. Required of all Seniors. Mr. Wootten.

BATTALION ORGANIZATION.

Major—B. J. Wootten, Commandant.
First Lieutenant and Adjutant—C. L. Mann.
First Lieutenant and Quartermaster—A. S. Lyon.
Sergeant Major—H. A. Huggins.
Principal Musician—A. T. Smith.
Color Sergeant—F. D. Ross.
Color Corporals—I. N. Sanders and M. Kellogg.

Rank.	Company A.	Company B.	Company C.
Captain:	Mark Squires.	F. M. Foy.	W. A. Syme.
1st Lieutenant:	C. B. Williams.	O'K. W. Myers.	W. D. Alexander.
2d Lieutenant:	E. L. Parker.	A. P. Steele.	J. H. Birdsong.
1st Sergeant:	E. Wood.	R. L. Bernhardt.	G. Jones.
2d Sergeant:	B. H. Finch.	J. E. Porter.	J. B. Hall.
3d Sergeant:	M. M. Harris.	J. H. Bunn.	J. W. Shore.
4th Sergeant:	I. O. Schaub.	R. M. Wagstaff.	L. H. Mann.
5th Sergeant:	S. A. Vest.	R. H. Morrison.	L. G. Berry.
1st Corporal:	T. H. Barnhardt.	Z. M. Bowden.	J. E. Ramsay.
2d Corporal:	C. U. Harris.	R. N. Welfare.	F. N. Bonitz.
3d Corporal:	W. S. Sturgill.	B. O. Hood.	L. O. Lougee.
4th Corporal:	E. O. Smith.	J. E Pearson.	J. S. Whitley.

Note.—The uniform of cadet gray costs $16.85.

struments. Three hours, second and third terms. Required of Seniors in Science-A and -E. Professor Weihe.

4. PHYSICAL LABORATORY.—Measurement of length, area and volume, weighing, determination of density, laws of forces and velocities, pendulum, electric and magnetic measurements. Four hours, first term; three hours second term. Required of Juniors in Engineering. Four hours, second and third terms. Required of Juniors in Science. Professor Weihe.
5. PHYSICAL LABORATORY.—Experiments in Electricity, heat, light and sound. Six hours, first term. Required of Seniors in Science-T and -E. Six hours, second and third terms. Required of Seniors in Science-C and -E. Four hours, first term. Required of Seniors in Engineering. Professor Weihe.

HISTORY.

1. AMERICAN HISTORY.—The entire time is devoted to State and United States History. Moore's *History of North Carolina*, Lee's *History of the United States.* One hour. Required of all Freshmen. President Holladay.
2. ANCIENT AND MEDIEVAL HISTORY.—History of Egypt, Assyria, Phonecia, the Hebrew Nation, Greece and Rome. An introduction to Modern History as far as the time of Charlemagne, comprising a brief view of the Federal System and the Age of Chivalry. Lectures and Swinton's *Outlines of the World's History.* One hour. Required of all Sophomores. President Holladay.
3. ENGLISH HISTORY.—Abstracts of English History from various sources, and Green's *Short History of the English People.* One hour. Required of all Juniors. President Holladay.
4. ECCLESIASTICAL AND MODERN HISTORY.—Evidences of Scripture, historically considered, and a short study of the history of the nineteenth century. Alexander's *Evidences*, Robertson's *Contemporary History.* One hour. Required of all Seniors. President Holladay.

BOOK-KEEPING.

1. BOOK-KEEPING.—The work in the text-books supplemented by numerous original examples and sets for practice. One hour, second and third terms. Required of all Sophomores. Mr. Wright.

MILITARY SCIENCE AND TACTICS.

1. MILITARY TACTICS.—The instruction is in Infantry Drill Regulations, close and extended order, including the School of the Soldier, Company and Battalion, and embraces also recitations or lectures on Military Science. One hour. Required of all Seniors. Mr. Wootten.

BATTALION ORGANIZATION.

Major—B. J. Wootten, Commandant.
First Lieutenant and Adjutant—C. L. Mann.
First Lieutenant and Quartermaster—A. S. Lyon.
Sergeant Major—H. A. Huggins.
Principal Musician—A. T. Smith.
Color Sergeant—F. D. Ross.
Color Corporals—I. N. Sanders and M. Kellogg.

RANK.	COMPANY A.	COMPANY B.	COMPANY C.
Captain:	Mark Squires.	F. M. Foy.	W. A. Syme.
1st Lieutenant:	C. B. Williams.	O'K. W. Myers.	W. D. Alexander.
2d Lieutenant:	E. L. Parker.	A. P. Steele.	J. H. Birdsong.
1st Sergeant:	E. Wood.	R. L. Bernhardt.	G. Jones.
2d Sergeant:	B. H. Finch.	J. E. Porter.	J. B. Hall.
3d Sergeant:	M. M. Harris.	J. H. Bunn.	J. W. Shore.
4th Sergeant:	I. O. Schaub.	R. M. Wagstaff.	L. H. Mann.
5th Sergeant:	S. A. Vest.	R. H. Morrison.	L. G. Berry.
1st Corporal:	T. H. Barnhardt.	Z. M. Bowden.	J. E. Ramsay.
2d Corporal:	C. U. Harris.	R. N. Welfare.	F. N. Bonitz.
3d Corporal:	W. S. Sturgill.	B. O. Hood.	L. O. Lougee.
4th Corporal:	E. O. Smith.	J. E Pearson.	J. S. Whitley.

NOTE.—The uniform of cadet gray costs $16.85.

GENERAL INFORMATION.

EQUIPMENT AND FACILITIES.

Agriculture.—The equipment of the farm is as follows: Large basement barn, 50 x 72 feet, three stories; first floor occupied by cattle; second story, by horses, machinery, tools, grain bins, etc.; third story, by hay, which is elevated by a Ricker & Montgomery hay-carrier. Just outside the barn are two seventy-ton circular silos. These are connected with a No. 18 Ohio Standard feed and ensilage cutter. The power for cutting is supplied by an eight-horse power Skinner engine. The dairy building contains three rooms and a cellar, besides a large room above, used as an Agricultural Society hall, in which the students' Agricultural Society meets on Saturday nights. The dairy is supplied with a De Laval Separator, Babcock Tester, rectangular churn, butter worker, cheap heating apparatus, etc. The cellar is cemented, and has a cemented trough on one side, through which flows water from a spring situated above the dairy. This is an abundant water supply and serves a useful purpose in ripening cream.

The live stock consists of two grade percheron mares, two mules, a few specimens of pure bred Jersey and Holstein-Friesian cattle, with their grades, and purchased native and grade cows. Poland China swine are bred pure and from high-class specimens, from which breeding stock will be sold as a part of the farm productions.

Horticulture.—There are five communicating green-houses separated by glass partitions so that different night temperatures can be maintained to suit the various purposes to which the houses are devoted. In addition, there is one glass structure, without heat, for the culture of foreign grapes. Here is kept a general collection of plants for botanical study and for practice in Floriculture, and in two of the houses winter forcing of vegetables and fruits is carried on; in order that the students may have practice in a line of work that is rapidly assuming commercial importance in the State. The building and green-houses are heated throughout by hot water in the most complete manner.

The entire basement of Primrose Hall is used as a Horticultural Laboratory, where practice in grafting, potting and cross fertilization of plants is constantly going on.

Botany.—The Botanical Laboratory is equipped with sixteen compound microscopes of the best American and European makes, a supply of dissection lenses, and chemicals and staining fluids used in histological work. The Herbarium is fairly good, and is being added to by collections and exchanges. The collection of seeds of weeds and cultivated plants is very full, and is an important factor in the acquirement of a knowledge of the appearance of various seeds and fruits. It is intended, as rapidly as possible, to fully equip the laboratory for advanced work in bacteriology.

CHEMISTRY.—The chemical laboratories are in the main building. They are supplied with fume closets, evaporating baths, drying chambers, blast lamps, and extra tile-covered tables. The tables are of yellow heart-pine, with oak tops. Each student is provided with one large and two small drawers, and one cupboard for keeping apparatus Each working space is provided with gas, distilled water, re-agents, and a sink. The laboratory of quantitative analysis will accommodate thirty-two students, sixteen of whom may work simultaneously, and the laboratory of general chemistry will accommodate fifty-six students, twenty-eight of whom may work simultaneously.

The chemical library contains a carefully selected list of standard reference books and chemical journals, which the more advanced students are expected to use very freely.

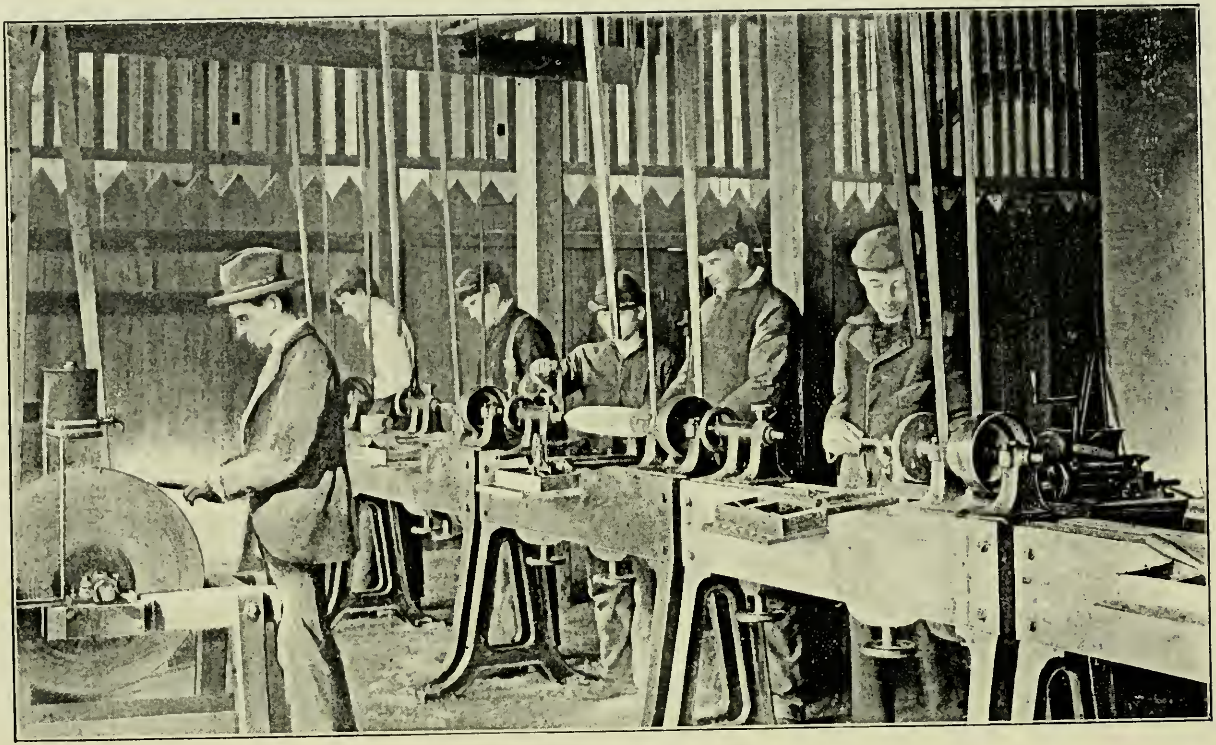
PHYSICS AND ELECTRICAL ENGINEERING.—The recitation-rooms and laboratories of the Department of Physics and Electrical Engineering are situated in the basement of the principal building. They are spacious, well lighted and provided with a number of solid brick piers built directly on the ground. A dark room for general optical work, and particularly for photometric measurements, has been provided.

The equipment consists of apparatus for illustrating the principles of physical science and for instruction and practice in experiments, measurements and testing. The instruments are all up-to-date and well selected, and are particularly efficient for work in electricity.

In the electrical engineering laboratory are one series, one shunt and one compound dynamo and two alternators. Connections have also been made with the electric plant of the city of Raleigh, enabling more advanced students to do some testing with strong currents and three phase currents. The electric light plant of the College is also used for commercial testing.

The department possesses a very good library of standard books on all branches of physics. The students are referred to them in their work.

MECHANICAL ENGINEERING.—The drawing and recitation-rooms, laboratory and shops of the Department of Mechanical Engineering are in the Engineering Building. They are of ample size and well lighted, and are arranged to be heated either by the exhaust steam from the engine or by live steam. On the first floor are a recitation-room, engineering laboratory, machine shop, forge shop, wood turning shop, and carpenter shop. On the second floor are the office, three drawing-rooms, a recitation-



LATHE ROOM.

room and a library. In the latter various scientific and technical journals are kept on file, the trade circulars of prominent engineering firms, drawings and photographs of machinery, and tabulated data, as well as a large number of engineering books, the use of which is required. In this way modern engineering practice is made in a measure familiar.

The laboratory is provided with the necessary apparatus for making boiler and engine tests and other work of an experimental character. The equipment consists of a two-horse power engine, a ten-horse power engine (both of which were built by the students), a large Ericsson hot-air pumping engine, a machine for testing belt friction, apparatus for making analysis of flue gases, a hydraulic ram, a large Sturtevant fan and engine, a small water-motor, a Worthington water-meter, friction brakes, weirs, indicators, planimeters, slide rules, thermometers, caliometers, a Crosby gauge tester, tanks, scales, and other apparatus for making tests.

In addition to the laboratory, there is a boiler-house equipped with three thirty-horse power boilers, several pumps, and a jet condenser, all of which are available for experimental purposes.

The shops are equipped as follows:

The carpenter shop contains thirty-four carpenters' benches and all the necessary tools for each bench.

The wood-turning shop contains ten 12-inch-swing lathes, a saw and dado machine, a 20-inch planer, a mortising and boring machine, a 30-inch band saw, a large jig saw, a 6-inch sticker, a mitering machine, a grindstone, a steam glue-pot, and six benches equipped with iron vises and all the tools necessary for pattern-making. Each lathe is fully equipped with turning tools.

The forge shop contains twenty-three forges, each of which is provided with an anvil and forging tools, besides which there is a full equipment of tools for general use in the shop.

The machine shop contains a 16-inch-swing Davis & Egan lathe with 10-foot bed, a 14-inch Winsor lathe with 3-foot bed, a 13-inch Barnes lathe with 5-foot bed, a 24-inch upright Bickford drill press, a Brown and Sharp universal milling machine with all attachments, a 20-inch by 5-foot Pease planer, a large emery tool-grinding machine and six vises with benches and lockers.

The tool-room is well equipped with the necessary hand and pipe tools.

The power for the shops is furnished by a 25-horse-power Woodbury engine. When the shops are running, one of the students has charge of the engine and another of the boilers.

BUILDINGS.

Main Building.—This is of brick, with brownstone trimmings, and is 70 by 60 feet; part four stories in height, and the remainder two. The lower floors contain the offices of the President and the Bursar; the library; several recitation rooms; chemical and physical laboratories, the chapel, and the armory. The upper stories are occupied by students. In this, as in the other buildings, every precaution has been taken to secure good sanitation. The rooms are all well lighted, well ventilated and conveniently arranged.

ENGINEERING BUILDING.—This is a plain, substantial, two-story brick building, with large annex. It contains the laboratories, drawing-rooms and recitation-rooms, and shops of the department.

BOILER HOUSE.—This is a single-story brick building, containing boilers, fire-pump, and the machinery connected with the steam-heating plant.

PRIMROSE HALL AND PLANT HOUSES.—This is a two-story brick building, which has attached a fine range of glass structures. The lower, or basement floor, is occupied by the Horticultural laboratory and boiler-room. The upper floor contains a large lecture-room, and a laboratory. The plant-houses are five in number, and are immediately accessible from the lecture-rooms and laboratories.

DAIRY AND BARN.—These are frame buildings, of modern design, and carefully planned for the purposes to which they are devoted. The barn is 50 by 72 feet and three stories high; the dairy is 20 by 40 feet and two stories high, the upper story being used as the Agricultural Society hall.

WATAUGA HALL.—This commodious three-story brick building was named in honor of the Watauga Club, which was largely instrumental in securing the establishment of the College. The first floor contains a kitchen, a dining-room and a cloak-room, while in the upper stories are twenty-six rooms used as dormitories. In the basement are seven conveniently arranged BATH-ROOMS, each having a shower, provided with hot and cold water. These are available for the use of the students at all proper times.

DORMITORIES.—The College has four brick buildings, used exclusively as dormitories, containing a total of fifty-four rooms.

THE INFIRMARY.—This is a two-story brick building with granite trimmings and slate roof. On the first floor are five rooms, a large hall, kitchen, and bath-room. The matron's apartments are on this floor. On the upper floor are three hospital wards, two large bath-rooms, a linen room, a doctor's office and medicine closet. All of the rooms are provided with large windows, and with doors that open to porches. The building is lighted by electricity, and is well provided with speaking-tubes. The hospital wards are provided with enameled beds, single, and the floors are waxed and stained, and all the plastering has soapstone finish and is perfectly sanitary.

WATER SUPPLY.

To meet the need of a pure and plentiful supply of water, the College had twelve driven wells put in. The depth of these wells is from 55 to 80 feet. The water is pumped for distribution from these wells into three large tanks, and also into one fire reservoir.

LIGHT AND HEAT.

All the buildings are heated by steam, and are lighted by incandescent electric lamps from an electric plant belonging to the College.

DIVISION OF SESSION.

The session is divided into three terms, designated as First, Second and Third Terms.

Although students will be admitted at any time, the best time to enter College is at the beginning of the scholastic year, with the First Term. Students desiring to enter as late as the Third Term will find it impossible to pass the necessary examinations, unless they have already attended similar colleges, and had better wait till the beginning of another session.

Any student desiring to enter the Sophomore or other higher class, omitting the earlier classes, will be required to stand an examination which will show ample preparation for the class he may wish to enter.

REPORTS.

Reports of deportment and absence from college duties are sent to parents or guardians at the end of every month, and attention is called to any lack of diligence on the part of the student.

Reports of scholarship and deportment are likewise sent at the end of each term. In the grading, 100 is the maximum, 90 or over is considered excellent, 80 or over creditable; 60 is the lowest mark that will entitle the student to pass to a higher class. In calculating the average for the term the subjects count equally.

HONORS.

The Punctuality Roll contains the names of students who have not been absent from a single exercise during the year.

The Honor Roll contains the names of those whose average in all studies for the year is 90 or more.

Special mention is made at graduation of any student whose average in any study during his Junior or Senior year was above 90.

First Distinction is given in each course to the member of the graduating class who makes the highest average for the course, provided such average for the whole course is above 90.

Students attaining first distinction are entitled to deliver commencement orations.

DEGREES.

One Baccalaureate degree is conferred. Upon those who have successfully passed all the examinations in the various studies of the course in Agriculture, the course in Science, or the course in Engineering, the degree of Bachelor of Science (B. S.) is conferred.

The advanced degrees of M. S., M. E., C. E. and E. E. are given in accordance with the requirements specified under the head of Post-Graduate Courses. The fee for the Baccalaureate diploma is three dollars; for the diploma accompanying the higher degrees, five dollars is charged.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The various Christian denominations are well represented in the student body, and all unite in a Young Men's Christian Association, which meets with regularity and exerts a beneficial influence throughout the College.

LITERARY SOCIETIES.

There are two literary societies in the College, the Pullen and the Leazar, and both are sustained with energy and spirit. They afford abundant opportunity for improvement in declamation, debate, parliamentary law and composition, and students will find in either congenial associations.

TECHNICAL SOCIETIES.

The Agricultural Society, Mechanical Society, and Berzelius (Chemical) Society have been organized by the students taking most interest in these special departments of study. Their work consists in reviews of the various technical journals, and in original papers.

ALUMNI ASSOCIATION.

This Association of the College graduates meets annually during Commencement week, and aids in recalling the pleasant memories of College days, as well as keeping its members in active touch with their *Alma Mater.*

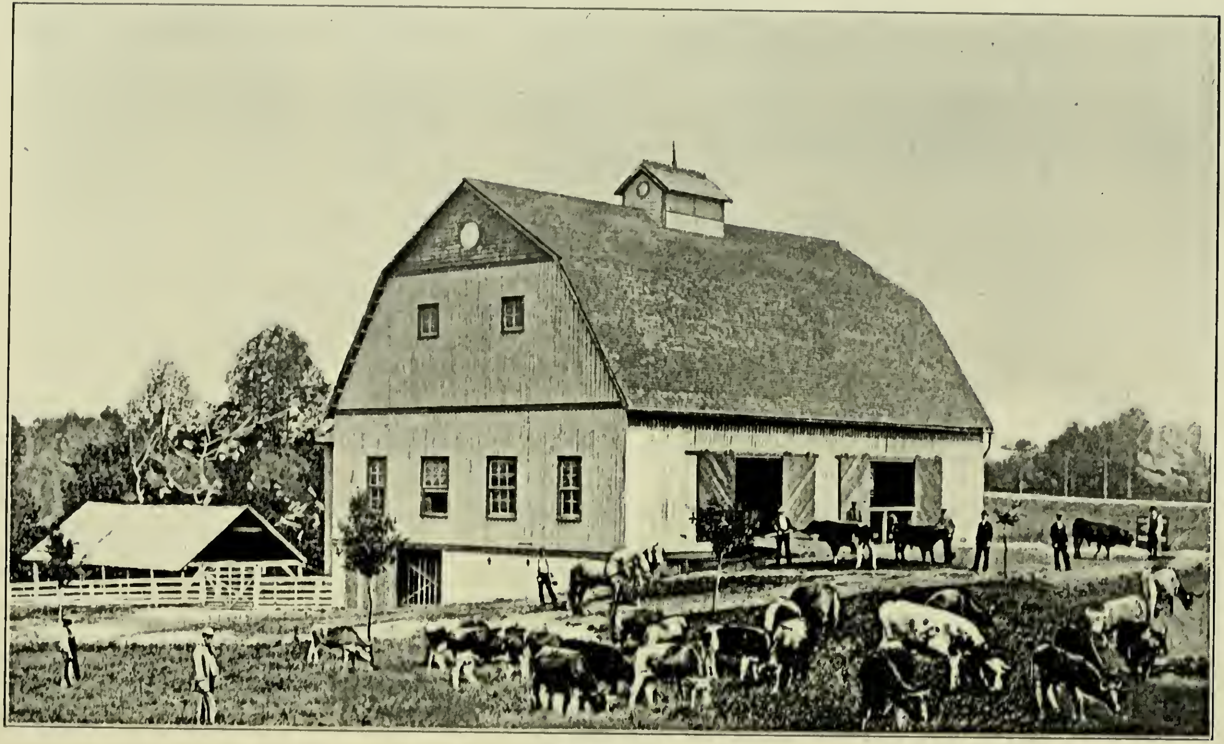
Following are the officers of the Association for the current year:

President, C. B. Williams, '93, Raleigh, N. C.

Vice-President, S. G. Kennedy, '97, Coahoma, N. C.

Secretary and Treasurer, H. W. Primrose, '97, Raleigh, N. C.

Chairman Executive Committee, Chas. Pearson, '94, Raleigh, N. C.



COLLEGE BARN.

LIBRARY.

The Library now contains about three thousand books and magazines. Additions are being made every year, and the way now seems clear for rapidly increasing the numbers.

There are reference libraries for the use of students placed in the departments of Agriculture, Horticulture, Chemistry, Physics, English, Mechanical and Civil Engineering.

LABOR.

On the farm and about the College certain work can be performed by the students. For all such labor, not instructive and a part of the College course, students who perform it will be paid *seven* cents per hour. As this labor has to be apportioned among many, no first-year student can hope to make more than two or three dollars a month in this way.

PRIZES.

A prize of ten dollars is given to the Freshman student who, in addition to his class work, earns the largest amount of money by his skill in agricultural labor outside, and a second prize of five dollars is given to the student who, in addition to his class work, earns the next largest amount of money by his skill in agricultural labor outside.

DISCIPLINE.

There must be order and decorum throughout the College, though the methods of securing both will appeal to the self-respect of the student, rather than to the dread of penalties.

For minor deficiencies or irregularities, proportional demerit marks will be noted on the report, sent to parents or guardians monthly and at the end of each term. It is hoped that parents will inquire into the cause of such evidences of demerit and hold their sons to a strict account for them, since if a student is thoroughly in earnest, it is quite possible for him to pass through his course without incurring one deficiency mark.

Students who persist in grave misconduct will not be permitted to remain in the College. The indolent and vicious are not wanted, will not be tolerated, and had best not attempt to enter where a student must work or leave. There is no room in our system for idlers.

STUDENTS.

AGE AND QUALIFICATIONS.—Applicants for the Freshman Class must be at least fifteen years old, and must, if required, furnish satisfactory evidence of good moral character. They must pass satisfactory examinations on the following subjects: 1st. Arithmetic through common and decimal fractions. The examination will cover the ground laid down in such standard arithmetics as Wentworth or Milne. 2d. In English, applicants will be examined on the elements of the language—the examination including the matter treated in such books as Reed and Kellogg's First Lessons, or Harvey's Grammar. 3d. In Geography the applicant is expected to be familiar with work of the grade of Maury's Manual. 4th. In History the examination will be confined to the main events in American History.

Pay and County Students.—The law provides for two kinds of students—pay and county students. There is no limit to the number of pay students. They pay for tuition and for their lodging in the College buildings, while the county students are entitled to tuition and to their lodging in the College buildings free of cost. The expenses of a pay student are only $30 a year more than those of a county student. Each county is entitled to as many county students as it has members in the House of Representatives. Young men desiring to enter as county students must apply to the County Board of School Commissioners, who alone have authority to make such appointments, as the College authorities cannot make them.

ADMISSION.

The County Superintendent of Schools is required by act of 1899, to conduct in his county the examination of all applicants for admission. This examination will be held at the county-seats on the second Thursday of July. For any special reason the County Superintendent may hold an additional examination, if necessary.

All young men, however, wishing to enter, can be examined at the College on the day before its opening, if they did not pass the examination at the county-seats. These will be held at the following hours: Mathematics, 9 A. M.; English, 11 A. M.; Geography, 2 P. M.; History, 3:30 P. M. Examinations for conditioned students and for applicants for advanced classes will be held also on these days.

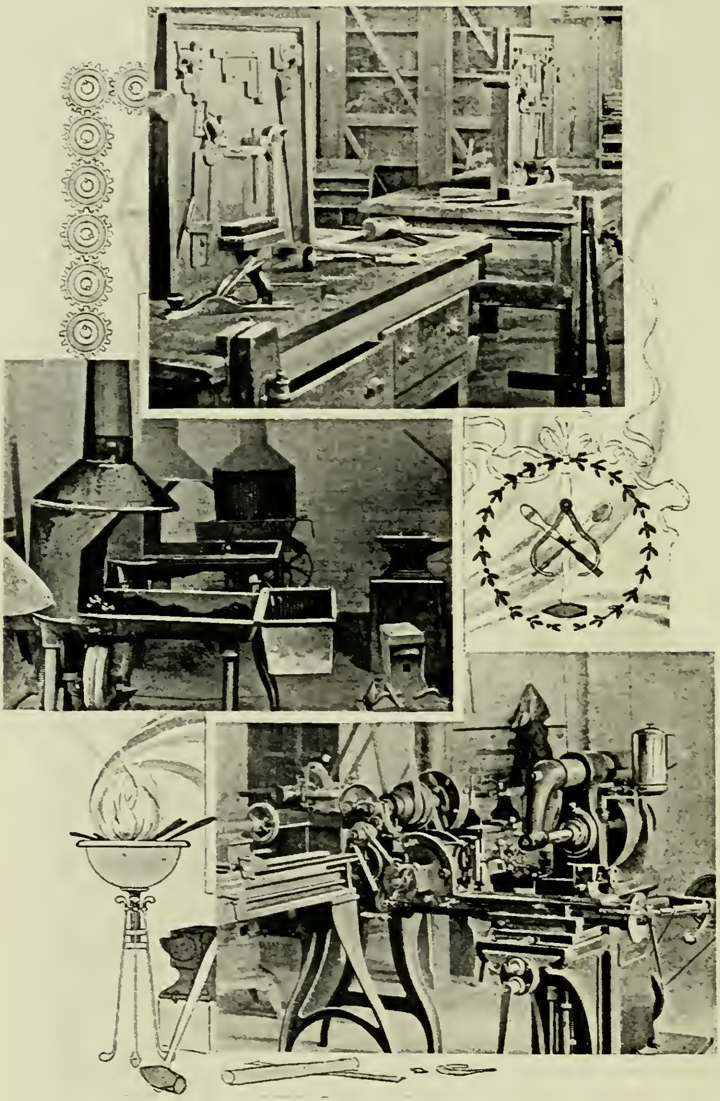
Students, after arriving in Raleigh, must report at once to the President of the College for a permit for examination or for registration.

Students who have passed the examinations for admission, or for advancement to a higher class, will report to the Registrar for registration.

GENERAL RULES.

Every young man, on becoming a member of the College, thereby pledges his obedience to the rules, a printed copy of which will be furnished him, and to a diligent performance of his duties.

No student in this College will be allowed to join any military organization, and no applicant for admission belonging to any military organ-



CARPENTER SHOP.   BLACKSMITH SHOP.   MACHINE SHOP.

ization shall be allowed to enter until he shall have filed with the Registrar a certificate of withdrawal from active membership in such organization.

Students are expected at all times to demean themselves in a quiet, gentlemanly manner, and no student will be allowed to remain in the institution who, by misconduct or indolence, shows himself unworthy of its benefits.

All students will be required to attend morning prayer in the chapel.

On Sunday morning, students must attend the church service in Raleigh, each student being allowed to select the church.

Each occupant of a dormitory is expected to keep his room in good order and ready for inspection at any time.

Clothing, etc.—Each student is required to have one suit of uniform. *Each student living in the College must bring with him a change of sheets and pillow-cases, four towels and two counterpanes, plainly marked.*

TUITION.

Tuition is $20 per scholastic year. County appointees are entitled to tuition and lodging *free of cost.* Post-graduates are excused from tuition fees.

BOARD AND LODGING.

Board and lodging are furnished all county students at $8 per month. To all other students who may desire it, and to the extent of our accommodations, board will be furnished at $8 per month, and lodging as below stated.

Board is payable monthly, in advance.

COLLEGE CHARGES PER SESSION OF NINE MONTHS.

1. Tuition	$ 20 00
2. Lodging (including room, furniture, bedding, etc.)	10 00
3. Incidental fee (in advance)	1 00
4. Medical fee and medicine (one-half upon entrance, remainder on January 15)	4 00
5. Fuel and lights for entire session	12 50
6. Board, eight dollars per month, in advance	72 00
	$119 50

It will be seen that the aggregate charge for tuition, lodging, and fuel and lights is $42.50. This must be paid as follows, viz.: for first eight months, at beginning of each month, $4.75; on May 1, ninth month, $4.50.

Besides board, incidental fee and medical fee, students holding county appointments pay for fuel and lights only, as follows, viz.: for first eight months, at beginning of each month, $1.40; on May 1, ninth month, $1.30.

Tuition of students who do not lodge in the College buildings, $20, must be paid monthly, as follows, viz.: for first eight months, at beginning of each month, $2.25, and on May 1, ninth month, $2.

Board should be paid to the Steward of the College, fees and dues to the Bursar.

The military uniform suit costs $16.85, and must be paid for when furnished.

Please bear in mind that ALL PAYMENTS MUST BE MADE IN ADVANCE. Failure to comply with this requirement will subject a student to dismissal.

Each student must make good all apparatus, etc., he breaks, and for this purpose must make a deposit at the beginning of the year.

All students must furnish their own books, stationery, and drawing instruments and materials.

STUDENTS.

POST-GRADUATES (15).

Name.	*Post Office.*	*County.*	*Major Course.*
James Adrian Bizzell,	Dunn,	Harnett,	Chemistry.
B. S. '95, N. C. College of Agriculture and Mechanic Arts.			
John William Carroll,	West Raleigh,	Wake,	Agriculture.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Wm. Alex. Graham Clark,	Raleigh,	Wake,	Civil Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Anson Eliken Cohoon,	Elizabeth City,	Pasquotank,	Chemistry.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
Hugh McCollum Curran,	Westboro, Mass.,		Agriculture.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
Benjamin Cary Fennell,	Raleigh,	Wake,	Mech. Eng.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
Charles Duffy Francks,	Richlands,	Onslow,	Mathematics.
B. E. '93, N. C. College of Agriculture and Mechanic Arts.			
Chris. Miller Hughes,	Raleigh,	Wake,	Chemistry.
B. E. '95, N. C. College of Agriculture and Mechanic Arts.			
Edward Bentley Owen,	Michael,	Davidson,	English.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
Hugh Williams Primrose,	Raleigh,	Wake,	Chemistry.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Abram Hinman Prince,	Henderson,	Vance,	Biology.
B. S. '95, N. C. College of Agriculture and Mechanic Arts.			
Thomas Jehu Smithwick,	Sans Souci,	Bertie,	Mech. Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			
Numa Reid Stansel,	Allenton,	Robeson,	Elect. Eng.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
George Frederick Syme,	Raleigh,	Wake,	Civil Eng.
B. S. '98, N. C. College of Agriculture and Mechanic Arts.			
J. Lea Watson,	Raleigh,	Wake,	Mech. Eng.
B. S. '97, N. C. College of Agriculture and Mechanic Arts.			

SENIORS, CLASS OF 1899 (21).

Name.	*Post Office.*	*County.*
William Davidson Alexander, Jr.,	Croft,	Mecklenburg.
Ira Wilson Barber,	Culler,	Stokes.
John Henderson Birdsong,	Raleigh,	Wake.
Francis Marion Foy, Jr.,	Scott's Hill,	Pender.
Kimbrough Jones, Jr.,	Raleigh,	Wake.

Name.	*Post Office.*	*County.*
ALBERT SIDNEY LYON,	Wilton,	Granville.
CARROLL LAMB MANN,	Engelhard,	Hyde.
O'KELLY WILLIAMS MYERS,	Washington,	Beaufort.
EUGENE LEROY PARKER,	Raleigh,	Wake.
EUGENE GRAY PERSON,	Louisburg,	Franklin.
FREDERICK ERASTUS SLOAN,	Statesville,	Iredell.
MARK SQUIRES,	Lenoir,	Caldwell.
ALEXIS PRESTON STEELE,	Statesville,	Iredell.
RALPH BINGHAM SYKES,	Rock Spring,	Orange.
WILLIAM ANDERSON SYME,	Raleigh,	Wake.
IRVING BURCHARD TUCKER,	Fair Bluff,	Columbus.
HUGH WARE,	King's Mountain,	Cleveland.
CLAUDE BURGESS WILLIAMS,	Elizabeth City,	Pasquotank.

IRREGULAR SENIORS (3).

SAMUEL YOUNG BRYSON,	Hendersonville,	Henderson.
ANDREW THOMAS SMITH,	Oxford,	Granville.
DARIUS SAMUEL WAITT,	Raleigh,	Wake.

CLASS OF 1900—JUNIORS (34).

KEMP ALEXANDER,	Harrisburg,	Cabarrus.
LESLIE GRAHAM BERRY,	Washington,	Beaufort.
JAMES HARRY BUNN,	Henderson,	Vance.
PAUL COLLINS,	Raleigh,	Wake.
BRANTLEY HILLIARD FINCH,	Lexington,	Davidson.
BERTIE MASON GRAVES,	Selma,	Johnston.
JAMES BAKER HALL, JR.,	Scotland Neck,	Halifax.
SAMUEL MERRILL HANFF,	Raleigh,	Wake.
GEORGE ROLAND HARRELL,	Kelford,	Bertie.
MARION MORGAN HARRIS,	Fairfield,	Hyde.
WILLIAM THEOPHILUS HINTON,	Greensboro,	Guilford.
HENRY ALLEN HUGGINS,	Wilmington,	New Hanover.
GARLAND JONES, JR.,	Raleigh,	Wake.
LOUIS HENRY MANN,	Middleton,	Hyde.
CHARLES ELBERT MOORE,	Moyton,	Wilson.
ROBERT HALL MORRISON,	Mariposa,	Lincoln.
WILLIAM LEAK PEACE,	Oxford,	Granville.
JUNIUS EDWARD PORTER,	Emerson,	Bladen.
ROGER FRANCIS RICHARDSON,	Selma,	Johnston.
WILLIAM EDWIN ROSE,	Statesville,	Iredell.
FLOYD DE ROSS,	Charlotte,	Mecklenburg.
IRA OBED SCHAUB,	Culler,	Stokes.

Name.	*Post Office.*	*County.*
John Wade Shore,	Booneville,	Yadkin.
William Turner Smith,	Godwin,	Cumberland.
John Thomas Talton,	Smithfield,	Johnston.
Thomas Fuller Terrell,	Raleigh,	Wake.
Simpson Alexander Vest,	Tobaccoville,	Forsyth.
Roscoe Marvin Wagstaff,	Olive Hill,	Person.
Gaither Hall Whiting,	Raleigh,	Wake.
Edward Wood,	Edenton,	Chowan.

Irregular Juniors (4).

Leslie Lyle Allen,	Louisburg,	Franklin.
Robert Linn Bernhardt,	Salisbury,	Rowan.
William Eaton Fenner,	Halifax,	Halifax.
William Montgomery Person,	Kittrell,	Vance.

CLASS OF 1901—SOPHOMORES (56).

William Augustus Ashley,	Raleigh,	Wake.
Fletcher Hess Barnhardt,	Norwood,	Stanly.
William Osborne Bennett, Jr.,	Wadesboro,	Anson.
Fred Wilhelm Bonitz,	Wilmington,	New Hanover.
Zolly Mosby Bowden,	Redland,	Davie.
William Dunn Briggs,	Raleigh,	Wake.
John Oscar Busick,	Madison,	Rockingham.
William Pescud Craig,	Marion,	McDowell.
William Lois Craven,	Concord,	Cabarrus.
Felix Gray Crutchfield,	Winston,	Forsyth.
John Witherspoon Daniel,	Raleigh,	Wake.
George Maslin Davis,	Winston,	Forsyth.
John Neal Davis,	Louisburg,	Franklin.
Errol Patrick Dixon,	Kinston,	Lenoir.
William Dollison Faucette,	Halifax,	Halifax.
Harris Augustus Fetner,	Raleigh,	Wake.
Leslie Gibbs,	Middleton,	Hyde.
Charles Bennett Griffin,	Lewiston,	Bertie.
Charles Upchurch Harris,	Raleigh,	Wake.
Thomas Jason Herring,	Kinston,	Lenoir.
William Michael Hoke,	Lincolnton,	Lincoln.
Benjamin Oliver Hood,	Asheville,	Buncombe.
Martin Kellogg,	Sunbury,	Gates.
Centennial Hill King,	Raleigh,	Wake.
Jesse James Liles,	Wadesboro,	Anson.
Lewis Omer Lougee,	Raleigh,	Wake.
Colon Reid Love,	Manndale,	Chatham.

Name.	*Post Office.*	*County.*
David Johnson Lybrook,	Winston,	Forsyth.
John Luther McKinnon,	Laurinburg,	Richmond.
James Leslie McNair,	Wilmington,	New Hanover.
Charles Harden McQueen,	Morven,	Anson.
Lemuel Octave Moseley,	Kinston,	Lenoir.
Zebulon Vance Murphrey,	Kinston,	Lenoir.
William Alfred Myatt, Jr.,	Raleigh,	Wake.
Leslie Monteiro Norman,	Richmond,	Henrico, Va.
William Franklin Pate,	Snow Hill,	Greene.
Boyd Charles Pattee,	Singer Glenn,	Rockingham, Va.
John Ellis Pearson,	Saluda,	Polk.
John Ramsay,	Salisbury,	Rowan.
William Matthews Robinson,	Charlotte,	Mecklenburg.
Isaac Newton Sanders,	Swansboro,	Onslow.
Edward Oscar Smith,	Crystal Hill,	Halifax, Va.
Frank Patillo Smith,	Guilford College,	Guilford.
Walter Stephen Sturgill,	Sturgill,	Ashe.
Beverly Nathaniel Sullivan,	Winston,	Forsyth.
Richard Eppie Timberlake,	Youngsville,	Franklin.
Charles Augustus Watson,	Raleigh,	Wake.
Robert Noble Welfare,	Lexington,	Davidson.
John Smallwood Whitley,	Williamston,	Martin.

IRREGULAR SOPHOMORES (8).

David Worth Bagley,	Raleigh,	Wake.
Thomas Milton Costen,	Sunbury,	Gates.
Clarence Alfred Flowers,	Vandemere,	Pamlico.
Alfred Galloway Hankins, Jr.,	Wilmington,	New Hanover.
William Branch Jones,	Raleigh,	Wake.
George Washington Shepard,	Topsail,	Pender.
Hilary Emory Sykes,	Rock Spring,	Orange.
John Seaton Welch,	Apex,	Wake.

CLASS OF 1902—FRESHMEN (87).

Robert Lee Adams,	Gastonia,	Gaston.
Walter Lamar Alexander,	Charlotte,	Mecklenburg.
Alonzo Ohio Alford,	Raleigh,	Wake.
Walter Caiss Boesch,	Wilmington,	New Hanover.
William McDowell Burgin, Jr.,	Marion,	McDowell.
Benjamin Bowden Carr, Jr.,	Mount Olive,	Duplin.
William Wiggins Caserley,	Warrenton,	Warren.
Junius Sidney Cates,	Swepsonville,	Alamance.

Name.	*Post Office.*	*County.*
Alexander Chatham,	Elkin,	Surry.
William Austin Clark,	Elizabethtown,	Bladen.
Alexander Lillington Clark,	Weldon,	Halifax.
Roy Craham Craver,	Reeds,	Davidson.
George Francis Marion Dail,	Snow Hill,	Greene.
Joseph Samuel Davis,	Purley,	Caswell.
Henry Grady Dorsette,	St. Lawrence,	Chatham.
Allie Drake,	Hendersonville,	Henderson.
Herbert Dysart	Marion,	McDowell.
William Columbus Ernull,	Askin,	Craven.
Paul Fletcher Faison,	Raleigh,	Wake.
Samuel Isaac Farnell,	Ward's Mill,	Onslow.
George Ramsey Fearing,	Elizabeth City,	Pasquotank.
Joseph Edgar Fulp,	Fulp,	Stokes.
Walter Lindsay Fulp,	Fulp,	Stokes.
Joseph Nelson Garren,	Limestone,	Buncombe.
Thomas Whitmel Griffin,	Lewiston,	Bertie.
Wade Hampton Hadley,	Siler City,	Chatham.
Robert Irving Howard,	Conetoe,	Edgecombe.
William Franklin Ingram,	Mount Gilead,	Montgomery.
Albert Ransom Johnson,	Yale,	Henderson.
John Samuel Johnston,	Leasburg,	Caswell.
Edgar Pelopidas Leach,	Raleigh,	Ware.
Henry Faison Lee,	Faison,	Duplin.
Edmund Shaw Lytch,	Laurinburg,	Richmond.
Miles Washington Maske,	Polkton,	Anson.
Dewey Hobbs McCullen,	Faison,	Sampson.
Ernest McCurry,	Murfreesboro,	Hertford.
George Meyers McDonald,	Rockingham,	Richmond.
Daniel Neill McLean,	Maxton,	Robeson.
Charlie Owen McNair,	Wilmington,	New Hanover.
James Purdie McNeill,	Conway,	Horry, S. C.
John Miller Monie,	Raleigh,	Wake.
Laurie Moseley,	Kinston,	Lenoir.
Vassar Young Moss,	Zacho,	Granville.
Arcus Edward Myers,	Reeds,	Davidson.
Fred Joseph Parham,	Monroe,	Union.
James Avon Lafayette Parker,	Cypress Creek,	Bladen.
George Davis Parsley, Jr.,	Wilmington,	New Hanover.
George Franklin Pipkin,	Princeton,	Johnston.
Theodore Ober Pomeroy,	Graham,	Alamance.
Edward Purdie,	Godwin,	Cumberland.
William Benedict Reinhardt,	Reinhardt,	Lincoln.
Frederick Lawton Rich,	Seven Springs,	Wayne.

Name.	*Post Office.*	*County.*
William Sidney Smethurst,	Raleigh,	Wake.
Sidney Haywood Smith,	Lexington,	Davidson.
Marvin Greene Smith,	Raleigh,	Wake.
William Ernest Snow,	High Point,	Guilford.
Russell Elstner Snowden,	Elizabeth City,	Pasquotank.
William Stamey Stacy,	Morganton,	Burke.
George Manly Stanback,	Mangum,	Richmond.
Leroy Clark Steele,	Turnersburg,	Iredell.
Samuel Lanair Stringfield,	Waynesville,	Haywood.
John Houston Squires,	Lenoir,	Caldwell.
Arthur Kendal Thomas,	Thomasville,	Davidson.
Stephen Hull Threadgill, Jr.,	Wadesboro,	Anson.
Joseph Platt Turner,	Norwood,	Stanly.
Wright Elbert Upchurch,	Raleigh,	Wake.
Alfonso Lewis Walker,	Raleigh,	Wake.
Cleveland Welch,	Waynesville,	Haywood.
Fred Stanly Whitaker,	Kinston,	Lenoir.
Horace Joseph Williams,	Raleigh,	Wake.
Charley Gaither Woodruff,	Mocksville,	Davie.
Yasotaro Yezoye,	Tokyo, Japan.	

IREGULAR FRESHMEN (15).

Bedford Jethro Brown,	Charlotte,	Mecklenburg.
Louis Alexander Brown,	Concord,	Cabarrus.
Oliver Carter,	Garland,	Sampson.
Robert Wallace Cowper,	Winton,	Hertford.
Claud Hooker Daniels,	Bayboro,	Pamlico.
Richard Irby,	Blackstone,	Nottoway, Va.
William Ernest Fillmore King,	Raleigh,	Wake.
Ernest Meadows,	Raleigh,	Wake.
Charles Arthur Nichols,	Barnard,	Madison.
John Adolph Nunn,	New Bern,	Craven.
William Leon Parks,	Seven Springs,	Wayne.
Thomas Stradley Rogers,	Lyons,	Granville.
Louis Murdock Smith,	Raleigh,	Wake.
William Isaiah Thompson,	Faison,	Sampson.
Kennie Raynor Woodard,	Edenton,	Chowan.

SUB-FRESHMEN (29).

Roy Horton Allen,	Raleigh,	Wake.
Zebulon Vance Brinkley,	Manteo,	Dare.
William Gilliam Brown,	Winston,	Forsyth.
Thomas Stuart Coffey,	Boone,	Watauga.

Name.	*Post Office.*	*County.*
William Alfonso Dement,	Raleigh,	Wake.
William Birch Douglass,	Raleigh,	Wake.
Toney Dughi,	Raleigh,	Wake.
Delma Dacota Ellington,	Raleigh,	Wake.
Harmon Edward Grimsly,	Newbern,	Craven.
Guy Blunt Hardy,	Kinston,	Lenoir.
Robert Edward Hardy,	Snow Hill,	Greene.
Charles Wesley Jones,	West Raleigh,	Wake.
Hubert Ben Lawrence,	Beck,	Wake.
Chester Arthur Martin,	Raleigh,	Wake.
Jesse Edgar Parker,	Selma,	Johnston.
Julian Valencourt Perkins,	Washington,	Beaufort.
Robert Owen Primrose,	Raleigh,	Wake.
Julius Rowan Rogers, Jr.,	Raleigh,	Wake.
James Pickett Rose,	Statesville,	Iredell.
Robert George Russell,	South Lowell,	Durham.
Quincey Bell Satchwell,	Wilmington,	New Hanover.
Thomas Shepherd,	Hendersonville,	Henderson.
Archie Woodman Sidbury,	Topsail Sound,	Pender.
Howard Simpson,	Simpson's Store,	Rockingham.
Stanly Gorde Smith,	Raleigh,	Wake.
Benjamin Tharp Spruill,	Franklinton,	Franklin.
Robert Morrison Sutton,	Candor,	Montgomery.
Claud Taylor,	West Raleigh,	Wake.
Nicholas William West, Jr.,	Raleigh,	Wake.

AGRICULTURAL SPECIALS.

Alton Edwin Ames,	East Fairfield,	Somerset, Me.
James Stuart Branch,	West Raleigh,	Wake.
John Lyon Bullock,	Hester,	Granville.
Elmer Washington Burch,	Ronda,	Wilkes.
John Drury Burton,	Ridgeville,	Caswell.
Edgar Persons,	Waynesville,	Haywood.
William Osmond Smith,	Guilford College,	Guilford.
Lee Sprinkle,	Marshall,	Madison.
James Allen Turlington,	Ora,	Sampson.
Paul Julius Welch,	Wanesville,	Haywood.

COMMENCEMENT, 1898.

BACCALAUREATE SERMON

BY

THE REV. HARTLEY P. CARMICHAEL, D. D., OF VIRGINIA.

ANNUAL ADDRESS

BY

HON. H. J. W. HAM, OF GEORGIA.

GRADUATES AND SUBJECTS OF THESES.

With the Degree of Bachelor of Science (B. S.).

Name.	*Post Office.*	*County.*
DORSEY FROST ASBURY (E),	Chambers,	Burke.
A Design of a Brick Chimney for a Four Hundred Horse-power Boiler Plant.		
SIDNEY HAMILTON BECK (E),	Table Rock,	Burke.
Design and Construction of an Electromagnet.		
ANSON ELIKEM COHOON (A),	Elizabeth City,	Pasquotank.
A Design for Laying Out the Grounds around the New Infirmary.		
HUGH McCOLLUM CURRAN (S),	Westboro, Mass.	
Comparative Value of Jadoo and Tropic Fibre for Greenhouse Culture.		
BENJAMIN CARY FENNELL (E),	Raleigh,	Wake.
Specifications and Drawings for Heating by Steam the Engineering Building.		
ALPHEUS ROUNTREE KENNEDY (E)	Coahoma,	Lenoir.
The Construction of an Instrument for Testing the Magnetic Properties of Iron (John Hopkinson's Model).		
FREDERICK CREECY LAMB (S),	Elizabety City,	Pasquotank.
The Effect of Different Alkali Salts on the Solubility of Tricalcium Phosphate in Fertilizers (with Parker).		
EDWIN BENTLEY OWEN (A),	Reed's,	Davidson.
A Study of Varieties of Lettuce.		
MOORE PARKER (S),	Raleigh,	Wake.
The Effect of Different Alkali Salts on the Solubility of Tricalcium Phosphate in Fertilizers (with Lamb).		
NUMA REID STANSEL (E),	Allenton,	Robeson.
Design of a Single Phase Alternating Electric Light Plant for the College.		

Name.	*Post Office.*	*County.*
Teisaku Sugishita (E),	Kofufu, Hida, Japan.	
Design of a Steel Highway Bridge.		
George Frederick Syme (E),	Raleigh,	Wake.
The Construction of an Instrument for Testing the Magnetic Properties of Iron (S. P. Thompson's Model).		

With the Degree of Master of Science (M. S.).

Robert Donnell Patterson, Jr.,	Durham,	Durham.
A System of Farming by Tenants, with Rotations and Some General Rules for the Same.		

MEMBERS OF THE GRADUATING CLASS ENTITLED TO SPECIAL MENTION.

A. E. Cohoon, Agriculture and Horticulture.

H. M. Curran, Horticulture, English and Chemistry.

E. B. Owen, Horticulture, Agriculture and Chemistry.

Moore Parker, Chemistry.

N. R. Stansel, English, Mathematics, Electricity, Mechanics, Steam and Drawing.

T. Sugishita, Mathematics and Drawing.

HONOR ROLL.

SENIOR CLASS.

Name.	*Post Office.*	*County.*
Numa Reid Stansel,	Allenton,	Robeson.

PUNCTUALITY ROLL.

FRESHMAN CLASS.

William Augustus Ashley,	Raleigh,	Wake.

FRESHMAN PRIZES IN AGRICULTURE.

TEN DOLLAR PRIZE.

John Smallwood Whitley,	Williamston,	Martin.

FIVE DOLLAR PRIZE.

Charles Bennett Griffin,	Lewiston.	Bertie.

REGISTER OF ALUMNI.

CLASS OF 1893.

Name.	*Degree.*	*Address.*	
Robert Wilson Allen,	B. E.,	Preston, Md.	Prof. Mathematics, Preston Normal School.
Samuel Erson Asbury,	B. S.,	Nashville, Tenn.	Assistant State Chemist.
Henry Emil Bonitz,	B. E.,	Wilmington, N. C.	Architect and Superintendent.
Frank Fuller Floyd,	B. E.,	Knoxville, Tenn.	Supt. Linotype Machines for the *Knoxville Sentinel.*
Charles Duffy Francks,	B. E.,	Richlands, N. C.	Farmer.
Edward Moore Gibbon,	B. E.,	Port Royal, S. C.	Machinist U. S. Government Dock Yard.
George Pender Gray,	B. S.,	Silver Lake, Fla.	Farm Manager.
Charles Bolling Holladay,	B. E.,	Richmond, Va.	With John L. Williams & Sons.
William McNeill Lytch,	B. E.,	Phœnix, Fla.	Locomotive Engineer.
Walter Jerome Mathews,	B. E.,	Goldsboro, N. C.	Engineer for the Eastern N. C. Asylum for the Insane.
James William McKay,	B. E.,	Black Mountain, N. C.	Civil Engineer and County Surveyor.
Frank Theophilus Meacham,	B. S.,	Morganton, N. C.	Farm Superintendent State School for Deaf and Dumb.
Carl DeWitt Sellars,	B. E.,	Altamaha, N. C.	Engineer for Altamaha Cotton Mills.
Charles Edgar Seymour,	B. S.,	Louisburg, N. C.	Farmer.
Buxton Williams Thorne,	B. E.,	Water Valley, Miss.	Corporation Clerk.
William Harrison Turner,	B. E.,	Salem, N. C.	With Wachovia Mills (F. & H. Fries).
Charles Burgess Williams,	B. S.,	Raleigh, N. C.	Assistant State Chemist.
Louis Thomas Yarbrough,	B. E.,	Durham, N. C.	Manager Southern Bell Telephone Co.
Samuel Marvin Young,	B. E.,	Raleigh, N. C.	Of Irby & Young.

CLASS OF 1894.

Name.	*Degree.*	*Address.*
Charles Edward Corpening, Farmer.	B. E.,	Lenoir, N. C.
David Cox, Jr., Architect and County Surveyor.	B. E.,	Hertford, N. C.
Robt. Donnell Patterson, Jr., With American Tobacco Co.	B. S.,	Durham; N. C.
Charles Pearson, Of Pearson & Ashe, Architects.	B. E.,	Raleigh, N. C.
Zebbie George Rogers, Secretary and Treasurer.	B. E.,	Danville, Va.
John Hyer Sanders, Locomotive Engineer for Lumber Co.	B. E.,	Chocowinity, N. C.
Benjamin Franklin Walton, Farmer.	B. S ,	Neuse, N. C.
John McCamy Wilson, With Salem Iron Works.	B. E.,	Salem, N. C.

Frank Theophilus Meacham, See Class of 1893.	M. S.,	Morganton, N. C.

CLASS OF 1895.

Thomas Martin Ashe, Of Pearson & Ashe, Architects.	B. E.,	Raleigh, N. C.
James Adrian Bizzell, Instructor in Chemistry, N. C. College of Agriculture and Mechanic Arts.	B. S.,	Raleigh, N. C.
John Isham Blount, With Cole Manufacturing Co.	B. E.,	Newnan, Ga.
James Washington Brawley, Traveling Salesman.	B. S.,	Mooresville, N. C.
Walter Austin Bullock, Manager Brooks Dairy Farm.	B. S.,	Bainbridge, Ga.,
David Clark (M. E., Cornell Univ.), Secretary and Treasurer Ada Cotton Mills.	B. E.,	Charlotte, N. C.
Geo. Washington Corbett, Jr., Engineer Raleigh Electric Co.	B. E.,	Raleigh, N. C.
Edwin Speight Darden, With Banner Tobacco Warehouse.	B. S.,	Wilson, N. C.
William Kearney Davis, Jr., Superintendent Southside Manufacturing Co.	B. E.,	Salem, N. C.
Joseph Charles Dey, Of J. C. Dey & Co., Wholesale Grocers.	B. S.,	Norfolk, Va.
Lee Borden Ennett, Farmer.	B. S.,	Cedar Point, N. C.
Isaac Henry Foust, Farmer.	B. E.,	Charlotte, N. C.

Name. *Degree.* *Address.*

Charles Wyllis Gold, B. S., Wilson, N. C.
Business Manager *Wilson Times*, Editor *Dixie Dairyman* and *Dairy Farmer*.

William Henry Harris, B. E., Atlanta, Ga.
Assistant Southern Representative, The Draper Co.

Christopher Miller Hughes, B. E., Raleigh, N. C.
Clerk N. C. Agricultural Experiment Station.

Malcolm Beall Hunter, B. E., Philadelphia, Pa.
Textile Designer.

Sam'l Christopher McKeown, B. E., Cornwell, S. C.
Superintendent Machine Shops.

Mann Cabe Patterson, B. E., Port Royal, S. C.
Machinist U. S. Government Dock Yard.

Abram Hinman Prince, B. S., Stagville, N. C.
Superintendent of Farm.

Victor Vashti Privott, B. E., Edenton, N. C.
With Lumber Company.

Howard Wiswall, Jr., B. E., Norfolk, Va.
Inspector United States Engineers.

Charles Garrett Yarbrough, B. E., Pittsburg, Pa.
With Westinghouse Electric Company

Charles Marcellus Pritchett, M. E., Raleigh, N. C.
Instructor in Mechanical Engineering N. C. College of Agriculture and Mechanic Arts.

CLASS OF 1896.

Daniel Allen, B. S., Raleigh, N. C.
With S. C. Pool's Shoe Store.

George Stronach Fraps, B. S., Raleigh, N. C.
Ph. D. Johns Hopkins University; Instructor in Chemistry N. C. College of Agriculture and Mechanic Arts.

Marion Jackson Green, B. S., Victor, N. C.
Assistant in Victor High School.

John Howard, B. S., Tarboro, N. C.
Civil Engineer.

William Colbert Jackson, B. S., Ayden, N. C.
With J. R. Smith & Bro.

Robert Graham Mewborne, B. S., Richmond, Va.
Assistant Chemist Virginia-Carolina Chemical Co.

Levi Romulus Whitted, B. S., Port Royal, S. C.
Assistant Inspector of Dredging.

Henry Lloyd Williams, B. S., Merchant Mills, N. C.
Merchant.

Samuel Erson Asbury, M. S., Raleigh, N. C.
See Class of 1893.

Charles Burgess Williams, M. S., Raleigh, N. C.
See Class of 1893.

Name.	*Degree.*	*Address.*
DAVID CLARK,	M. E.,	Raleigh, N. C.
	See Class of 1895.	
WILLIAM HENRY HARRIS,	M. E.,	Charlotte.
	See Class of 1895.	

CHAS. MARCELLUS PRITCHETT,	C. E.,	Raleigh, N. C.
	See Class of 1895.	

CLASS OF 1897.

JOSEPH SAMUEL BUFFALOE,	B. S.,	Nashville, Tenn.
	Medical Student.	
JOHN WILLIAM CARROLL,	B. S.,	Raleigh, N. C.
	Dairyman N. C. College of Agriculture and Mechanic Arts.	
CHARLES EDWARD CLARK,	B. S.,	South Washington, N. C.
	Truck Farmer.	
WM. ALEXANDER GRAHAM CLARK,	B. S.,	Raleigh, N. C.
	Assistant in Civil Engineering N. C. College of Agriculture and Mechanic Arts.	
NICHOLAS LOUIS GIBBON,	B. S.,	Charlotte, N. C.
	With D. A. Tompkins Co.	
CEBERN DODD HARRIS,	B. S.,	Raleigh, N. C.
	Assistant State Chemist.	
JERE EUSTIS HIGHSMITH,	B. S.,	Parkersburg, N. C.
	Farmer.	
CLYDE BENNETT KENDALL,	B. S.,	Raleigh, N. C.
	Civil Engineer.	
JOSEPH LAWRENCE KNIGHT,	B. S.,	Raleigh, N. C.
	Dairyman.	
WALTER JONES MCLENDON, JR.,	B. S.,	Atlanta, Ga.
	With Fulton Bag and Cotton Mills.	
REPTON HALL MERRITT,	B. S.,	Wilmington, N. C.
	With Standard Oil Company.	
ALBERT HICKS OLIVER,	B S.,	Brevard, N. C.
	Dairyman and Farm Superintendent.	
HUGH WILLIAMS PRIMROSE,	B. S.,	Raleigh, N. C.
	Assistant in Chemistry, N. C. College of Agriculture and Mechanic Arts.	
WILLIAM HUNTER SANDERS,	B. S.,	Raleigh, N. C.
	Assistant Engineer Raleigh Electric Co.	
THOMAS JEHU SMITHWICK,	B. S.,	Raleigh, N. C.
	Assistant in Shop N. C. College of Agriculture and Mechanic Arts.	
LEA WATSON,	B. S.,	Raleigh, N. C.
	Assistant in Mechanical Engineering N. C. College of Agriculture and Mechanic Arts.	
BRADLEY JEWETT WOOTTEN,	B. S.,	Raleigh, N. C.
	Instructor Military Tactics N. C. College of Agriculture and Mechanic Arts.	

JOHN ISHAM BLOUNT,	C. E.,	Ithaca, N. Y.
	See Class of 1895.	
DAVID CLARK,	C. E.,	Raleigh, N. C.
	See Class of 1895.	
LEVI ROMULUS WHITTED,	C. E.,	Port Royal, S. C.
	See Class of 1896.	

CLASS OF 1898.

Name.	*Degree.*	*Address.*
DORSEY FROST ASBURY, With Newport News Ship Yards.	B. S.,	Newport News, Va.
SIDNEY HAMILTON BECK, With Newport News Ship Yards.	B. S.,	Newport News, Va.
ANSON ELIKEM COHOON, With N. C. Geological Survey.	B. S.,	Raleigh, N. C.
HUGH MCCULLOM CURRAN, With N. C. Geological Survey.	B. S.,	Raleigh, N. C
BENJAMIN CAREY FENNELL, Post-Graduate Student N. C. College of Agriculture and Mechanic Arts.	B. S.,	Raleigh, N. C.
ALPHEUS ROUNTREE KENNEDY, Insurance Agent	B. S.,	Fitzgerald, Ga.
FREDERICK CREECY LAMB, Assistant State Chemist.	B. S.,	Raleigh, N. C.
EDWIN BENTLEY OWEN, Tutor Sub-Freshman Class N. C. College of Agriculture and Mechanic Arts.	B. S.,	Raleigh, N. C.
MOORE PARKER, Student Lowell Textile School.	B. S.,	Lowell, Mass.
NUMA REID STANSEL, Instructor in Physics and Electrical Engineering, N. C. College of Agriculture and Mechanic Arts.	B. S.,	Raleigh, N. C.
TEISAKU SUGISHITA, Engineer, Imperial Railway of Japan.	B. S.,	Tokyo, Japan.
GEORGE FREDERICK SYME, Civil Engineer.	B. S.,	Raleigh, N. C.

ROBT. DONNELL PATTERSON, JR., See Class of 1894.	M. S.,	Durham, N. C.